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EDITORIAL

Greetings to all readers

This July issue of Research Reach is truly a Home Science journal issue with an assortment of papers from the fields of Textiles, Community resource management, Human Development and Food Science.

Several popular traditional textiles and handicrafts that reflect the cultural heritage of our country have not been researched enough. Moreover, they have also undergone several innovations to suit the present day needs. The paper by Sudha Babel on the "Durrie of Rajasthan" and the one by Dr. Vijaya Lunia & Gagan Bhalla on the "Gota work of Rajasthan" documents the intricacies of such traditional craftsmanship.

Empowerment of women and consumers' buying behavior are key human resource management issues. The paper by Anju Bhatia and Megha Bedi on "Empowerment of women Sarpanch through Panchayati Raj institutions (PRIS)" & and the paper by Richa Tyagi on "Influence of sources of information on consumer buying behaviour for non-durables" are research efforts in this direction.

Disordered eating attitudes and behavior are very much a problem in urban India as in the West. The paper by C.Kalaivani Ashok & S.Karunanidhi examines the relationship of factors such as BMI, depression and anxiety on abnormal eating attitudes and eating disorders among college students in Chennai.

The study by Laxmi S, Balaganoor & Dr. Vijayalakshmi, D. on "physical characteristics and nutrient composition of selected brinjal genotypes" documents the physical composition and nutritive value of common brinjal genotypes that will have implication for their end use.

We hope this issue with diverse research topics will satisfy the reading needs of a wider audience.

Chief Editor,
Dr. Malathi Sivaramakrishnan.

INSTRUCTIONS TO THE AUTHORS

Research Reach- Journal of Home Science (ISSN 0974 – 617X) is devoted to original Research and Development in all branches of Home Science. It is a bi-annual publication from the Research Centre, College of Home Science, Nirmala Niketan, 49, New Marine Lines, Mumbai – 400020.

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2. Research papers with a maximum of 7-14 pages
3. Research notes limited to a maximum of 2-6 typed pages
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The article should cover:

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Information / Views / Data published in the journal are of the authors only.

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PHYSICAL CHARACTERISTICS AND NUTRIENT COMPOSITION OF SELECTED BRINJAL GENOTYPES

Laxmi. S, Balaganoor & Dr. Vijayalakshmi, D.

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The experiment was conducted to know the physical and nutrient composition of five brinjal varieties. Among the varieties there was considerable range of variation in the genotypes for all characters studied. Maximum fruit length, fruit weight, fruit calyx length, fruit diameter, pericarp thickness and dry matter was recorded as 29.70 cm, 29.71g, 11.70cm, 4.60 cm, 0.61cm, 9.30% respectively. The pH value was recorded as 6.24, total soluble solids content was recorded as 8.10⁰Brix. Sugar content, Moisture, Protein, fat, ash, and crude fibers were estimated. Minerals like calcium, phosphorus, iron and zinc were also estimated (AOAC, 1980).

Brinjal (*Solanum melongena* L.) also known as egg plant is a tropical vegetable and popular in the southern as well as northern parts of India. It is available throughout the year. In accordance with the liking of the people for a particular shape, size and color of the fruit and based on yielding capabilities, large number of varieties are grown throughout the country.

Even though work has been carried out in India by several workers to process brinjal as canned (Constonin *et al.*, 1974), pickled (Nakaho, 1977) and stuffed brinjal (Sulimenk, 1971), there appears to be only few reports about processing suitability of varieties and quality attributes of brinjal. Thus scanty information is available about the chemical constituents of various varieties.

Hence physico-chemical differences across brinjal varieties would help the breeders, consumers and food technologists, to determine the criteria for various product preparations. These criteria would act as guidelines in developing varieties / hybrids without neglecting the consumer preference. With this background in view, the present investigation was undertaken to study the morphological characters and nutrient composition of different genotypes of brinjal fruit.

MATERIALS AND METHODS:

A total of five brinjal genotypes of different shapes and color were selected for the study from the IIHR Hesaraghatta Bangalore. After 60-70 days of sowing, the matured fruits were harvested and were investigated for different physical characteristics like fruit length, fruit diameter, calyx length and fruit weight. Fruits were harvested at edible stage for all different physical characteristics and nutrient composition.

The dry matter content was determined by drying of samples at 65±2°C. The dehydrated samples were ground and used for further investigation. pH value was recorded for all the varieties. Anthocyanin and non enzymatic browning OD values were recorded by the method described by Ranganna (Ranganna, 1986). Moisture, protein, fat, ash, and crude fiber were estimated by

AOAC method. Sugars were extracted and estimated according to method described by Sadashivan and Manickam (Sadhashivam & Manickam, 1992). The minerals were extracted by digestion of powdered samples. Calcium, phosphorus and iron were estimated by AOAC method. Zinc was estimated by Chemito Atomic Absorption method, while carbohydrate and energy were computed.

The data collected on the physical properties and chemical composition were statistically analyzed. The data was analyzed for mean, standard deviation, percent variance. F-test was applied for the physical characteristics using CRD design.

RESULTS AND DISCUSSION:

Table1: Features of brinjal genotypes

SLN0	Genotypes	Features
1	<i>Arka Shirish</i>	Uniform green color fruit, long shaped with green calyx and non spiny.
2	<i>Arka Keshav</i>	Uniform purple color, long shaped fruit with purple calyx and non spiny.
3	<i>Arka Shwetha</i>	Uniform white color, long shaped fruit with green calyx and non spiny.
4	<i>Pusa Hybrid-9</i>	Uniform purple black color fruit, round shape with green color calyx and non spiny
5	<i>Manjari</i>	Purple striped, oblong fruit with green calyx and non spiny.



Arka shirish



Arka Keshav



Arka Shwetha



Pusa Hybrid-9



Manjari

The different varieties of brinjal used for the study are presented in Table (1). The physical characteristics of five genotypes are depicted in Table (2). Among the five genotypes selected to study the physical characteristics, the variety *Arka Shirish* was found to have higher fruit length, fruit weight, calyx length and dry matter over all other four genotypes. However the genotype *Pusa Hybrid-9* fruits were having more diameter and pericarp thickness. Similar studies on morphological fruit characteristics were reported by earlier workers viz., Gayathri (2003) and Thambe et al, (1992) in brinjal genotypes.

Table 2: Physical characteristics of fruits of brinjal genotypes

Varieties	Fruit Length (cm)	Fruit Weight (g)	Fruit calyx Length (cm)	Fruit Diameter (cm)	Pericarp Thickness (cm)	Dry matter (%)
<i>Arka Shirish</i>	29.70	90.30	11.70	1.8	0.60	9.30
<i>Arka Keshav</i>	27.50	59.06	9.83	1.9	0.23	9.08
<i>Arka Shwetha</i>	29.50	82.60	9.50	2.2	0.34	9.15
<i>Pusa Hybrid-9</i>	9.43	75.40	6.50	4.60	0.61	8.44
<i>Manjari</i>	12.23	62.80	7.05	4.2	0.40	7.80
F- value	475.90*	30.06*	26.33*	88.05*	101.24*	16.03*
SEm±	0.45	2.39	0.41	0.13	0.01	0.15
CD at 5%	1.49	7.80	1.35	0.44	0.05	0.49

*Significant at 5% level

Brinjal genotypes are varying with respect to chemical constituent's viz., pH, total soluble solids and sugar content at the time of harvest. pH varied from 5.80 to 6.24 and maximum pH was found in *Arka Shwetha*. Regarding Total soluble solid content in different genotypes the variety *Arka Keshav* has recorded highest TSS of 8.10⁰ Brix and the lowest range of 5.70⁰ Brix was found in the variety *Pusa Hybrid-9*. However, in a similar study conducted by Gayathri (2003), the TSS value was ranging between 3.22 to 6.24⁰ Brix.

Table 3: pH, total soluble solids, reducing, non reducing and total sugar content of brinjal genotypes (per 100g)

Varieties	pH	TSS (Brix)	Reducing Sugar (%)	Non reducing sugar (%)	Total Sugar (%)
<i>Arka Shirish</i>	6.22	8.03	2.54	0.50	3.04
<i>Arka Keshav</i>	6.23	8.10	2.34	0.67	3.01
<i>Arka Shwetha</i>	6.24	7.02	2.38	0.83	3.21
<i>Pusa Hybrid-9</i>	5.96	5.70	2.37	0.90	3.27
<i>Manjari</i>	5.80	6.21	2.00	0.95	2.95
F- value	11.98*	190.46*	12.36*	890.61*	23.35*
SEm±	0.05	0.07	0.05	0.08	0.02
CD at 5%	0.18	0.23	0.20	0.03	0.10

*Significant at 5% level

Table 4: Anthocyanin and non enzymatic browning of brinjal genotypes

Varieties	Athocyanin (OD value)	Non enzymatic browning (OD value)
<i>Arka Shirish</i>	0.16	0.24
<i>Arka Keshav</i>	0.52	0.32
<i>Arka Shwetha</i>	0.09	0.19
<i>Pusa Hybrid-9</i>	0.54	0.33
<i>Manjari</i>	0.42	0.22
F- value	1149.01*	27.83*
SEm±	0.006	0.016
CD at 5%	0.02	0.0422

*Significant at 5% level

Anthocyanin is an important parameter for rating the fruits for visual appeal to the consumers and the results showed very less content in the white and green varieties. The anthocyanin values showed a least value of 0.09 OD in *Arka shwetha* and the highest anthocyanin value was recorded in purple variety *Pusa hybrid -9* of 0.54 OD. The non enzymatic browning was high in purple variety *Pusa hybrid -9* and it was recorded as the least in *Arka Shwetha*.

Table 5: Macronutrient composition of brinjal genotypes (per 100g)

Varieties	Moisture (%)	Protein (g)	Energy ⁺ (K cal)	Fat (g)	Carbohydrate ⁺ (g)	Crude fiber (g)
<i>Arka Shirish</i>	90.70	1.18	36	0.26	7.20	1.22
<i>Arka Keshav</i>	91.09	1.20	34	0.17	6.90	1.01
<i>Arka Shwetha</i>	90.61	0.97	36	0.24	7.56	0.85
<i>Pusa Hybrid-9</i>	91.58	1.18	32	0.15	6.50	0.87
<i>Manjari</i>	92.16	1.40	31	0.31	5.61	1.19
F- value	18.30*	62.63*	21.46*	28.84*	16.22*	174.38*
SEM±	0.15	0.01	0.16	0.01	0.58	0.01
CD at 5%	0.47	0.06	0.51	0.39	1.84	0.04

+ - computed values

*Significant at 5% level

The moisture content ranged from 90.70-92.16 percent. However protein and fat contents are generally low in vegetables. The protein content of the genotypes ranged from 0.97-1.40 g/100g and fat content was varying from 0.15-0.31g/100g. Similar type of differences in moisture, protein was observed by Gayathri (2003). The higher energy (36 K cal/100g) and crude fiber (1.22g/100g) was recorded in *Arka shirish*. This may be attributed to higher fruit size genotypes

containing more energy and crude fiber as observed by earlier workers Bugdoso and Vedeki (1976). Carbohydrate content ranged from 5.61-7.56 g/100g.

Table 6: Total ash and micronutrient composition of brinjal genotypes (per 100g)

Varieties	Ash (g)	Calcium (mg)	Phosphorus (mg)	Iron (mg)	Zinc (mg)
<i>Arka Shirish</i>	0.64	12.26	47.26	0.66	0.37
<i>Arka Keshav</i>	0.64	42.52	56.70	1.13	0.28
<i>Arka Shwetha</i>	0.62	48.43	49.16	0.80	0.30
<i>Pusa Hybrid-9</i>	0.54	43.43	53.10	1.19	0.28
<i>Manjari</i>	0.52	26.56	45.70	0.87	0.25
F- value	36.39*	119.28*	6.22*	3.44*	6.22*
SEM±	0.009	1.37	1.79	0.12	0.01
CD at 5%	0.30	4.31	5.64	0.38	0.05

*Significant at 5% level

Ash content which reflects mineral content ranged from 0.52-0.64g/100g. The maximum calcium content was recorded in the long variety *Arka Shwetha* (48.43 mg/100g) and phosphorus was observed highest in the genotype *Arka Keshav* (56.70 mg/100g). This difference in varieties may be attributed to genetic make up and their capacity for the uptake of nutrients from the soil. Similarly iron content of brinjal genotypes varied and highest iron content was observed in *Pusa hybrid-9* (1.19 mg/100g) and highest zinc content was recorded in *Arka Shirish* (0.64 mg/100g). Difference in the iron content among genotypes has been also noted by Jaiswal *et al.* (1974)

SUMMARY

The physical characters of all fresh genotypes were estimated. There was considerable range of variation in the genotypes for all characters studied. Highest fruit length, weight, calyx length and dry matter were recorded in *Arka Shirish* and fruit diameter and pericarp thickness was recorded highest in *Pusa Hybrid-9*. pH and total soluble solids value was recorded highest in *Arka shwetha* and *Arka keshav* respectively. Anthocyanin and non enzymatic OD value was recorded highest in round variety *Pusa hybrid-9*. Manjari had the higher moisture, protein, fat content. The energy and crude fiber was recorded highest in *Arka Shirish* and carbohydrate value was high in *Arka Shwetha*. Among different genotypes *Arka shirish* and *Arka Keshav* recorded higher zinc content. Highest calcium content was recorded in *Arka Shwetha* and phosphorus was observed in genotype *Arka keshav* while iron content was high in *Pusa hybrid-9*.

Arka Shirish with good physical characteristics, better composition with respect to most of the nutrients and with less anthocyanin content can be used for processed products (Canning and pickling) while the round varieties can be used mainly for the preparation of fresh products (stuffed vegetable etc).

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DISORDERED EATING IN YOUNG FEMALE COLLEGE STUDENTS

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The prevalence of disordered eating attitudes and behaviours was estimated among 379 young female college students of Chennai city. Disordered eating was assessed using the Eating Disorder Inventory-3 Referral Form- (EDI-3RF) and the Eating Attitude Test-26- (EAT-26). The students were selected from four colleges by convenience sampling. Percentages, correlation and regression were used to analyse the data. The prevalence of Abnormal eating attitude among college students was 11.9% and 14% were found to be at a risk for an eating disorder. Significant positive correlations were found between Body Mass Index (BMI) and Abnormal eating attitude, and between BMI and three of the EDI-3RF subscales, namely, Drive for Thinness, Bulimia and Body Dissatisfaction. Further, the three subscales, of EDI-3RF as well as Abnormal eating attitude were positively related to depression, state anxiety and trait anxiety but negatively related to self esteem. BMI and depression emerged as significant predictors of both Abnormal eating attitude and Body Dissatisfaction while BMI and trait anxiety were significant predictors of the Drive for thinness subscale. This study provides a clear evidence of the prevalence of disordered eating among female college students in India and counters the belief that traditional societies are protected from eating disturbances.

Until recently, it was believed that eating disorders occurred almost exclusively in upper socioeconomic groups within western societies. Often characterised as western 'culture-bound' syndromes (Rittenbaugh, 1982), they were thought to be absent or extremely rare in populations other than those of Europe, North America and Australia. However, emerging evidence suggests that eating disorders in fact occur in a wide range of ethnic, cultural and socioeconomic groups, including Asian countries such as Hong Kong- (Lee, 1991, 1993), India (Khandelwal & Saxena, 1990; King & Bhugra, 1989), China (Song & Fang, 1990), Iran (Abdollahi & Mann, 2001), and Japan (Kuboki, Nomura, Ide, Suematsu, & Araki, 1996).

A rapidly industrializing nation of over one billion people, India has been identified as at risk for the incidence of eating disorders (Srinivasan et al, 1998). The increasing rates of eating disorders in traditional societies are usually attributed to acculturation and exposure through the media to western-oriented values of attractiveness and body size (Miller & Pumariega, 2001; Pumariega, 1986). Recently, the hypothesis "slimness-as-cultural-ideal" has been challenged. Researchers have suggested explanations other than the "slimness ideal" and have emphasised the interaction of individual, familial and socio-cultural factors (Garner, 1993; Weiss, 1995) such as the changing role of women, culture clash, the stress of cultural adjustment, rapid socioeconomic changes, as well as cultural beliefs and cultural meanings of eating, dieting and fasting in the pathogenesis of eating disorders (Katzman & Lee, 1997; Wildes et al, 2001). Given the infiltration of multinational fast food chains, beauty products, media images, alongside structural changes in family, sex roles, and consumerism, India is highly prone to the rising incidence of eating dysfunction (Ambwani, 2005). In the absence of extant epidemiological studies, the prevalence of eating disorders is

unknown in India. Therefore, data on the incidence of disordered eating is important for clarifying whether developing India is also weighed down by weight-related disorders ranging from disordered eating to eating disorders in addition to existing underweight, and escalating overweight and obese problems. Disturbed eating attitudes are common among adolescents, and it is suggested that they are precursors to eating disorders (Leichner et al, 1986). Researchers have found evidence that disordered eating patterns, such as excessive dieting, fasting, and bingeing, can lead to serious eating disorders, such as anorexia nervosa and bulimia nervosa (Neumark-Sztainer et al., 2006). It is likely that many factors are important in the etiology of disturbed eating attitudes during adolescence. Disordered eating has been correlated with several psychological characteristics of late adolescents. Many studies have reported low self-esteem to be an indicator of, and important contributor to, disturbed eating behaviours (Button et al, 1998; Silverstone, 1990). Moreover, it has been demonstrated that building self-esteem, without attending to weight or eating issues, has a positive impact on body dissatisfaction (O'Dea & Abraham, 2000). Among the other psychological factors studied, Pastore et al, (1996) demonstrated that increased anxiety was associated with abnormal eating attitudes in adolescents. In a study on Turkish adolescents, males and females in the abnormal eating behaviour category showed lower self-esteem, higher trait anxiety, and higher social physique anxiety than those in the normal eating behavior category (Murat et al, 2004). Researchers have also found significant positive associations between disordered eating behaviours and depressive symptomatology (Mizes, 1988). While investigating disordered eating behaviours among female undergraduates, Mazzeo and Espelage (2002) found that depression along with alexithymia mediated the association between variables such as family conflict, family cohesion, childhood physical and emotional abuse, neglect, and disordered eating.

Therefore, the present study was undertaken with the following objectives in mind:

1. To ascertain the prevalence of disordered eating among young female college students in Chennai city.
2. To find out the relationships between disordered eating, and BMI, body fatness, and psychological factors such as self-esteem, depression and anxiety.
3. To determine the relative role of age, income, BMI, body fatness, and psychological factors such as self-esteem, depression and anxiety in predicting disordered eating.

MATERIALS AND METHODS

Study Design and Sampling

A cross- sectional survey design was used for the study. Stratified random sampling was used to select the study sites. Four women colleges, one from each geographical location, namely, north, south, central and west were chosen by simple random sampling. Next, permission was obtained, and convenience sampling was used to select 100 undergraduate students from each college, irrespective of the course or year of study. Data from these 400 students were trimmed to 379 by excluding those who had medical problems or provided incomplete information.

Measures

Prior to their participation in the study, students were briefed about the nature and importance of the study and motivated to yield honest and sincere responses. The tools used in the study are described as follows.

Socioeconomic status (Kalliath, 1999): The Kalliath S.E.S Inventory was used to assess the socio economic status. It is an inventory designed to measure and qualify the social position of an individual in the social hierarchy in a modern urban conglomeration. The validity of the tool has been established and its reliability coefficient is .96.

Disordered eating: The tools used to assess disordered eating were Eat-26 and EDI-3 RF.

Eating Attitude Test (Garner & Garfinkel, 1979): The Eating Attitude Test (EAT-26) is a 26-item self-report scale primarily measuring symptoms associated with anorexia nervosa. A score of ≥ 20 suggests a possible eating disorder. The psychometric properties of reliability and validity for the EAT are high, and the sensitivity and specificity for eating disorders are quite acceptable (Williamson et al, 1995). A substantial literature documenting the use of the EAT in a variety of cultures has been established (Garfinkel & Newman, 2001; Nasser, 1994).

Eating Disorder Inventory (Garner, 1984): The Eating Disorder Inventory referral form (EDI-3RF) used in this study is a brief self-report measure designed to assess eating disorder risk based on dieting concerns, body weight, weight history, height, and behavioural symptoms indicative of eating disorders. The EDI-3RF includes three subscales (i.e., Drive for thinness, Bulimia, & Body Dissatisfaction. Drive for Thinness (DT) and Bulimia (B) scales show high levels of temporal stability with test retest reliability correlation values of .70 and .75, respectively (Rizvi et al, 1999). For the Body Dissatisfaction Scale (BD), Shore and Porter (1990) reported a Cronbach's alpha of .91.

Beck Depression Inventory (BDI) (Beck, 1967): The Beck Depression Inventory taps 21 symptoms of depression that assesses cognitive, behavioural, affective and somatic components of depression. The original version which was used in this study has a split-half reliability of .86 or .93 with the Spearman-Brown correction, and an alpha coefficient of .92.

State Trait Anxiety Inventory (Spielberger et al., 1970): It has been recognized as the most researched measure of anxiety in cross-cultural studies among the adolescent population including college students (Huiling 2005). The State and Trait Anxiety consists of two subscales, namely, state anxiety and trait anxiety. The state anxiety scale consists of 20 items that evaluate how the respondents "feel right now at this moment" and the trait anxiety scale evaluates how the respondents generally feel. Spielberger et al. (1970) have reported a split-half reliability of .91 for state anxiety and .92 for trait anxiety.

The Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965): The Rosenberg Self-Esteem Scale is a 10-item Guttman scale designed to measure an individual's level of self-esteem. It is unidimensional, which means that individuals may be ranked along a single continuum from very low to very high. Scores range from 10 to 40. It has adequate reliability (test-retest = .85) and has been demonstrated to have adequate reliability with adolescent samples (Wylie, 1989).

Anthropometric measurements: -Height was measured using a body meter (SECA 208) to the nearest 0.1cm, while the Omron Digital Body Fat Analyser (HBF 200) which incorporates both a weighing scale and a leg-to-leg bioelectrical impedance analyser, was used to measure weight

(kg) and Percentage Body Fat (PBF) to the nearest one decimal place. Both the soles of the subjects' feet and the metal sole plates of the machine were cleaned with a dry cloth. The subjects were then asked to stand barefoot on the metal sole plates, with heels placed on the posterior plates and balls of the feet on the anterior plates. All had their hands by their sides and were facing forward when the readings were taken by the analyser. Body weight along with BMI and percent body fat (PBF) estimated using the standard built-in prediction equations were displayed by the machine and recorded manually. Also, age, gender and height were entered manually.

PLAN OF ANALYSIS

Percentages were computed in order to address the first objective, Pearson's correlation coefficients were computed in order to address the second objective, and multiple linear regression analyses were conducted in order to address the third objective.

RESULTS

The mean age of the subjects included in the study was $18.65 \pm .95$, with a majority belonging to the age group of 17-19 years (82.1%) and a small percent of subjects above 19 years i.e., 15% were 20 years and 2.9% were 21 years respectively. The socio economic status of the subjects derived from the summated scores on the Kalliath SES Inventory revealed that 62.8% belonged to the middle income group, while 22.7% were from the high income group and 14.5% belonged to the low income group. The subjects had a mean BMI of 22.01 ± 4.6 , and mean body fat percent of 28.88 ± 16.76 , respectively. Distribution of subjects into various weight groups in accordance with the WHO (2004) classification showed only half the number of subjects to be of normal weight (52.2%), while 16% were overweight ($BMI \geq 25$), 6.6% were obese ($BMI \geq 30$), and 25.1% were underweight ($BMI \leq 18.5$) respectively. Having nearly a quarter of the subjects both above and below the normal weight category clearly portrayed the dual burden situation in this population.

Out of the 379 college-students assessed, 11.9% had abnormal eating attitudes, scoring higher than the cut-off value of 20. Fourteen percent were found to be at risk for eating disorders based on their age, BMI and factors such as Drive for Thinness and Bulimia. Body Dissatisfaction though not a criterion for categorizing those at risk, but a robust risk factor in the development of eating disorders was found to be moderate in 72.8% of the college students, while 8.7% of subjects had high body dissatisfaction scores.

The behavioural symptoms for an eating disorder risk (see Table 1) showed that 2.6% engaged in binge eating frequently, while weight control behaviours such as frequent use of laxatives, purging, and excessive exercise were seen among 6.3%, 7.1% and 9% of the subjects, respectively. Excessive weight loss in the previous year was reported by 3.7% of the college students. Presence of these symptoms indicates the practice of extreme and unhealthy weight control behaviours amongst the female college-students of Chennai.

Table 1: Distribution of behavioural symptoms for an eating disorder risk in young female college students (N=379)

Behavioural symptoms	Frequency	Percent
Binge eating	10	2.6
Vomiting	27	7.1
Use of laxatives	24	6.3
Exercising excessively	34	9.0
Excessive weight loss	14	3.7

Interrelationships between variables were in predicted directions. Thus, BMI was positively correlated with Drive for Thinness, Bulimia, Body Dissatisfaction and Abnormal eating attitudes (see Table 2). BMI was most strongly related to Body Dissatisfaction ($r=.60$, $p<.01$) and Drive for Thinness ($r=.58$, $p<.01$). In other words, higher the BMI, higher was a college-student's dissatisfaction with her body and higher was her drive for thinness. Similarly Body fatness was positively related to Body Dissatisfaction ($r=.22$, $p<.01$), Drive for thinness ($r=.19$, $p<.01$) and Abnormal eating attitude ($r=.12$, $p<.01$), while it had no relationship with Bulimia.

Table 2: Interrelationship between disordered eating, anthropometric and psychological variables

	BMI	BF	B	DT	BD	EAT-26	D	SA	TA	SE
BMI	1	.393**	.189**	.581**	.595**	.387**	.025	-.026	-.013	-.003
Body fat percent (BF)		1	.038	.194**	.216**	.124*	-.066	-.077	-.096	.071
Bulimia (B)			1	.323**	.230**	.332**	.164**	.130*	.170**	-.180**
Drive for Thinness (DT)				1	.587**	.599**	.144**	.103*	.164**	-.138**
Body Dissatisfaction (BD)					1	.391**	.208**	.142**	.155**	-.176**
EAT-26						1	.219**	.148**	.145**	-.109*
Depression (D)							1	.586**	.597**	-.525**
State Anxiety (SA)								1	.802**	-.606**
Trait Anxiety (TA)									1	-.618**
Self-esteem (SE)										1

** $p<.01$ * $p<.05$

With regard to the relationship between psychological factors and measures of disordered eating, Abnormal eating attitude was positively related to depression ($r=.219$, $p<.01$), state anxiety ($r=.148$, $p<.01$), trait anxiety ($r=.145$, $p<.01$) and negatively related to self-esteem ($r=-.109$, $p<.05$).

Similarly significant positive relationships were observed between all three subscales of EDI (Bulimia, Drive for Thinness, Body Dissatisfaction) and psychological variables such as depression, state anxiety and trait anxiety while a negative relationship between these variables and self-esteem was seen. It was therefore evident from the nature of these relationships that low self-esteem, depression, anxiety and disordered eating behaviours co-exist.

Four sets of multiple linear regression analyses were conducted, one for each of the disordered eating measures namely, Drive for Thinness, Bulimia, Body Dissatisfaction and Abnormal eating attitude. All regression models were significant (see Table3). Age, income-level, BMI, body fatness, depression, state anxiety, trait anxiety and self-esteem were the independent variables employed in each of these four models. The models explained 21% of variance in abnormal eating attitude, 38% of variance in Drive for Thinness, 10% of variance in Bulimia and 41% of variance in Body Dissatisfaction respectively. The beta coefficients that were significant in the model for Drive for thinness were BMI and trait anxiety, indicating that BMI and trait anxiety significantly predicted a drive for thinness. The beta coefficients that were significant in the model for Bulimia were BMI and Income level, indicating that BMI and income level significantly predicted Bulimia. Similarly, BMI and depression were found to be significant predictors in the models for Body Dissatisfaction and Abnormal eating attitude.

Table 3: Summary of regression of selected demographic, anthropometric and psychological variables on measures of disordered eating

Predictors	Drive for Thinness (DT) Model		Bulimia (B) Model		Body Dissatisfaction(BD) Model		Abnormal eating attitude (EAT-26) Model	
	Beta	t	Beta	t	Beta	t	Beta	t
(Constant)		-2.556		-1.634		.380		-2.675
Age	.043	1.024	.101	2.003	-.054	-1.317	.069	1.456
Income	.030	.698	.105	2.011*	-.055	-1.297	.074	1.501
BMI	.578	12.46**	.162	2.927**	.609	13.476**	.366	7.026**
Body fatness	-.019	-.433	-.020	-.365	.001	.024	-.013	-.258
Depression	.041	.768	.068	1.051	.128	2.437**	.183	3.013**
State anxiety	.086	1.189	-.072	-.838	.015	.210	.055	.673
Trait anxiety	.181	2.474*	.118	1.345	.022	.312	.015	.186
Self esteem	-.053	-.960	-.114	-1.737	-.084	-1.573	.031	.501
R		.612		.320		.637		.456
R ²		.375		.103		.406		.208
F		27.701		5.288		31.607		12.120
N		379		379		379		379

**p<.01, *p<.05

DISCUSSION

It is clear from this study that disordered eating attitudes and behaviour characterize urban Indian college students and not just adolescents in the Western countries. Several studies conducted in the west which have examined disordered eating behaviours among adolescents, have reported that 9% to 13% of youth exhibit symptoms of either anorexia nervosa or bulimia nervosa (Shisslak et al, 1995). In a study conducted among girls aged 12-18 years in Ontario, Jones et al.,

(2001) reported disordered eating attitudes and behaviours to be present in over 27% of the girls. Similarly, le Grange et al. (2006) found 14% of South African adolescents and young adult females as having abnormal eating attitudes with cut off scores on the EAT-26 above 20, while a small number (3.5%) were reportedly at 'high risk' for an eating disorder, on the basis of high scores on EAT-26 as well as the Bulimic Investigatory Test of Edinburgh (BITE).

A striking finding in the present study was the high level of body dissatisfaction reported by a large number of female college students. This warrants attention, as body dissatisfaction is directly related to disordered eating and extreme weight control behaviours. Body image has been repeatedly identified as the most important factor in the development of eating disorders (Hoyt & Kogan, 2001). Further, body dissatisfaction is important as it has negative consequences in terms of excessive dieting, disordered eating, increased depression, and low self-esteem (Tiggemann & Lynch, 2001).

Results of the study showed significant positive relationship between BMI and measures of disordered eating. Body fatness also showed significant positive relationships with Drive for Thinness, Body Dissatisfaction and Abnormal Eating Attitude. These findings are in line with several previous studies that have repeatedly shown eating disturbances to occur more frequently in overweight and obese subjects. Burrows and Cooper (2002) reported that overweight preadolescents showed greater concern about weight, shape and eating and attempted dietary restraint more often. Moreover, it was also reported that these overweight adolescents showed more symptoms of depression and had poor self-esteem. The findings in the present study also showed significant positive relationships between Abnormal eating attitude, Drive for Thinness, Bulimia, Body Dissatisfaction and psychological variables such as depression, state and trait anxiety. On the other hand self-esteem was found to be inversely related to all measures of disordered eating. In many studies conducted earlier, negative self-esteem (Silverstone, 1990; Park & Beaudet 2006; Joiner & Kaschubeck, 2006) anxiety (Murat et al., 2004) and depression (Franko & Omori, 1999) were reported in subjects with abnormal eating attitude and behaviour. Therefore, findings of this study reconfirm that psychological factors are related to problematic eating patterns.

Among the independent variables examined, BMI emerged as the strongest predictor of both abnormal eating attitudes and all subscales measuring eating disorder risk (DT, B and BD). This is consistent with the findings obtained by Jones et al. (2001) who found BMI quartiles as the only significant factor predicting all three EDI scales i.e., Drive for thinness, Body Dissatisfaction and Bulimia and Eat-26 scores. The association between BMI and disordered eating behaviours has also been previously reported by other researchers as well. (E.g. Neumark-Sztainer et al., 2000; Johnson-Sabine et al., 1988).

Socioeconomic status predicted bulimia, suggesting a modest increase in bulimic tendencies with an increase in affordability and availability of food. Lachenmeyer et al, (1988) also found disordered eating to increase with socioeconomic status in adolescents.

Among the psychological factors studied, the contribution of depression appeared significant for Body Dissatisfaction and Abnormal eating attitude, while trait anxiety significantly contributed

towards Drive for thinness. Findings that correspond to these observations were reported by Doyle et al., (2007) where comparisons between high-risk and normal -risk groups for eating disorders revealed that high-risk adolescents reported higher levels of depression, anxiety and stress than normal-risk groups. McCabe and Vincent (2003) have also reported anxiety, self-esteem, and depression to be significant predictors of disordered eating among girls.

CONCLUSION

The results of the study show that disordered eating exists among female college students in Chennai city. These findings suggest that eating disturbances cut across races and culture. Several researchers (Killen et al., 1994; Scarano & Kalodner-Martin, 1994; Tylka & Subich, 1999) conclude that disordered eating attitudes and behaviours lead to the development of eating disorders. In this study, BMI and depression have emerged as the strongest predictors of disturbed eating attitudes and behaviour. Problematic eating behaviour would certainly compromise the nutrient intake and health of adolescents who are at a crucial stage of growth and development. It is therefore necessary to create awareness about disturbed eating behaviours and factors related to it and formulate programs for its prevention at the earliest.

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DURRIE: FLAT WOVEN RUG OF RAJASTHAN

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Handicrafts are the basic activity of the human society and form an integral part of our life and reflect the cultural heritage of the country. Handicrafts are the material symbol of India's cultural ethos. They provide not only employment to the rural artisans but also contribute substantially to the foreign exchange earning. Floor coverings have always been an important part of the interior of Indian homes, as the use of furniture was very limited. Moreover India being a tropical country, where heat prevails for more than half the year, assent is more on cotton and a variety of floor covering is made called the durries or satrangies. Much research and development has not been done in the field of weaving the rug. The objective of the study was to study the socio economic conditions of rug weavers, to study the process and technique used in rug weaving and to analyze the problems of the rug weavers of Rajasthan For the collection of the required data for the study, the survey method has been adopted. Data has been collected by the way of field survey through pre tested structured interview schedule prepared for the purpose. Random sampling method has been adopted in collecting data. Data were tabulated using frequency and percentage. The study reveals that the rug weavers are handicapped by certain socio- economic conditions. These include illiteracy, inadequate finance, income, and marketing.

KEY WORDS: Durrie, Cotton rug, Rug weavers, Rug weaving in Rajasthan

Floor coverings have always been an important part of the interior of Indian homes, as the use of furniture was very limited. Moreover India being a tropical country, where heat prevails for more than half the year accent is more on flat woven cotton rug, a variety of floor covering made and called the durries or satrangies (Ahuja,1999). Flat woven cotton rug is a thick cotton drapery fabric made in India, with warp ribs and broad weft stripes. The flat woven cotton rug is a weft faced fabric on both its sides as warp is completely covered by the weft. In its simplest form, it is made in plain weave and in simple stripes in different colours running from side to side or broken into rectilinear sections or with simple pattern in single colour(Chattopadhyay,1976). Rug weaving is still a sizable cottage industry. Flat woven cotton rugs are woven at Bikaner, Jodhpur, Nagaur and Barmer in Rajasthan. Hand woven rug of Salawas (Jodhpur), Takla (Nagaur), Jasol (Barmer), are world famous. There are good numbers of rural population engaged in production of cotton picturesque rug using cotton yarns. A great deal of minute, delicate and intricate work is involved in creating the fabulous flat woven cotton rug. They reflect not only the rich cultural heritage but also the artistic skills of our ancestors passed on to their progeny. There is lack of adequate information available about flat woven cotton rug weaving in Rajasthan. To fulfill such gap a study was planned with the objective to study socio - personal profile , the techniques of flat woven cotton rug weaving along with motifs and design used, sources of design, marketing pattern and problems faced by the house hold flat woven cotton rug weaving units.

METHODOLOGY

The present study was conducted in purposively selected Barmer, Jodhpur and Nagaur districts of Rajasthan. For the selection of flat woven cotton rug weaving unit proportionate random sampling is used. In all 60 handloom flat woven cotton rug weaving units were selected for the purpose of the present study. Data were collected through personal interview technique with the help of pre tested structured interview schedule to gather the first hand information and secondary data were collected from different books and periodicals. Data were tabulated and interpretations were made in the light of the objectives.

RESULTS AND DISCUSSION:

- I) Socio personal characteristic:** The findings pertaining to this are complied in Table I with respect to the six variables as reported by the respondents.

Table 1: Socio – personal characteristic of the respondents (N=60)

Aspects	Categories	N	%
Age in years	18- 30	8	13.33
	31-40	15	25.00
	41-50	25	41.67
	51-60	12	20.00
Education	No formal education	22	36.67
	Up to V	18	30.00
	Up to VIII	12	20.00
	Up to X	8	13.33
Family type	Nuclear	22	36.67
	Joint	38	63.33
Family size	<5 members	7	11.66
	5-7 members	14	23.33
	8-10 members	30	50.00
	>10 members	9	15.00
Occupation	Principal\Primary	42	70.00
	Subsidiary	18	30.00
Mode of learning	Inherited	50	83.33
	Learned	10	16.67

The findings revealed that a good percentage of the respondents (41.67%) belonged to 41-50 years of age. The educational level of the respondents shows that 36.67 percent were illiterate and rest were educated up to secondary level. Higher education was totally absent. Majority of the respondents had joint family system with 8 to 10 or more than 10 members. Flat woven rug weaving was the main occupation of 70 percent of the respondents while the rest also practice other occupations along with rug weaving. These occupations include work on construction site, and farm labour. It was found that almost all the respondents were local residents; none of them had migrated from other places. For majority of the respondents (83.33) it was their traditional family occupation while only few (16.67%) learnt the craft by seeing neighbour and friends.

Monthly income**Table 2: Percentage of respondents based on earning and number of persons engaged (N=60)**

Monthly income	Number of persons engaged			
	2	3	4	Total
2500	13.33	-	-	13.33
2500- 4000	13.33	31.66	20.00	65.00
4001 +	-	5.00	22.00	21.66

Monthly income for the present study was calculated on the basis of number of persons engaged in the flat woven rug weaving. Table -2 shows that majority of the respondents earns only Rs. 2501- 4000 per month where 3or 4 members works regularly. Only 21.66 percent respondents earns above Rs. 4001 and up. This shows that respondents are not getting adequate income or remunerative prices of the product woven by them; with the meagre income the respondents are leading a hand to mouth existence.

II) Processes and techniques

- 1) **Source of raw material** The raw material used for the flat woven cotton rug is cotton yarn. They get the six ply yarn highly twisted for the warp and untwisted ten-ply yarn for the weft. The warp yarns are white in colour where as the weft yarn is coloured and this yarn produces design. Majority of the weavers do the job work (90 %) on order basis and are supplied with the design and raw material.
- 2) **Loom used** The loom used for weaving a rug is a horizontal ground loom called an *Adda* loom made by joining four iron pipes or two wooden beams. Large wooden pegs driven into the ground at four corners anchor these warp beams to which the warp threads are attached. The tension of the warp threads can be adjusted further, if required, by using additional ropes and pegs. The shedding arrangement from which the two heddle rods are suspended spans the loom. This over bridge also supports the levers used to move these heddle rods. This movement of heddle rods creates the shed and counter shed between the warps through which the weft passes during weaving.
- 3) **Weave and Yarn used:** The flat woven cotton rugs are woven with cotton warp and weft, with a weft faced plain weave with dovetailed joins. This weave is also known as plain tapestry weave giving a flat weft-faced reversible product. Nowadays, the majority of weavers use machine spun cotton yarns for warp, though the weft yarn may be machine spun or handspun yarns of coarser counts with less twist. The coarse count ranging from 4s to 12s is used in both warp as well as weft direction. Only difference is that the warp yarns are tightly twisted while weft yarns are very lightly twisted.
- 4) **Designs and colour:** Originally flat woven cotton rug were woven in its simplest form in stripes in different colour running from side to side or with simple pattern in single colour. Today a large number of complex geometrical patterns, floral, figurative, word, and numerical motifs, along with simple motifs are used with different colour combinations.

These days a large range of complex geometrical curvilinear, stylized patterns, flora, figurative, word, numerical motifs along with traditional designs combined with ethnic motifs are used. Some of the traditional colours used in flat woven rugs are green, red, black and white and they were produced with natural dyes, but nowadays shades developed by synthetic dyes are used in bulk. Some colours i.e. purple have not been used due to its figurative nature and due to less demand for such colors in the international market.



Figure 1: The weaving in progress

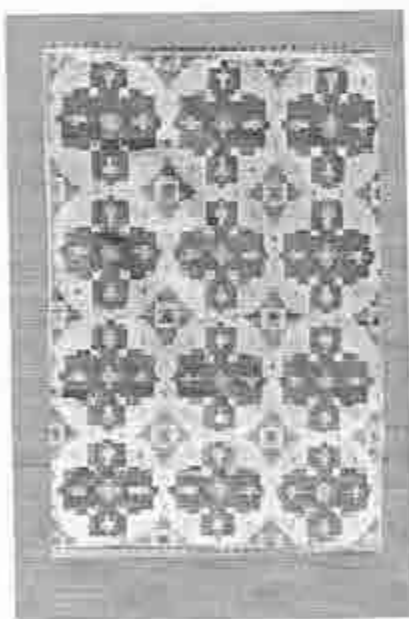


Figure 2: Finished Durrie

- 5) **Sources of Design:** It was found that most of the respondents used geometrical motifs but in addition to this 70 percent of the respondents made stylized figurative motifs and stylized floral motifs (65%). The woven rug had design with the repeats of the single motifs or different motifs in combination. It was found that only 25 respondents used own design while the remaining respondents used designs given by the whole sale seller or by the commission agents.
- 6) **Finishing** Before dispatching the rug to its ultimate destination, edge finishing is done by knotting the extra length of warp yarns by forming a net or fringe.

III) Marketing: Table 3 shows the data related to the place of sale of rug. One third of the respondents sell the rug to the wholesalers and commission agents while one fourth of the respondent sell only to the commission agents, followed by wholesalers (16.66%). This is because the exporters place orders to the commission agents or to the wholesalers, as per the demand of the clients for durries together with demand for handicrafts.

Table 3: Place of sale of rug (N= 60)

Place of sale	N	%
Direct sale+ Fairs	15	25.00
To wholesale seller	10	16.66
To commission Agents	15	25.00
To wholesale sellers + commission agents	20	33.33

Table 4: Problems faced by the respondents (N=60)

	N	%	Rank
Shortage of finance	50	83.33	I
Low income returns	40	66.66	II
Non availability of yarn on credit	25	41.66	III
Non availability of yarn in local market	15	25.00	IV
Accumulation of stock	15	25.00	IV
Problem in marketing	14	23.00	V
Hike in prices of raw material	12	20.00	VI

IV) Problems faced: The weavers are facing a lot of difficulties. Table 4 shows that shortage of finance was the problem experienced by majority of weavers (83.33%) followed by low income returns (66.66%), and non availability of raw material on credit (41.66%). It was surprising to note that none of the weavers working under the middle men and whole sale seller faced the problem of hike in the price and accumulation of stock. This may be because

the supply of raw material and selling of goods were done by the agency under which they were working. These were the problem mainly faced by independent rug weaving units.

CONCLUSION:

Thus it can be concluded that weavers are facing a lot of difficulties i.e. availability of raw material, shortage of finance and exploitation by the commission agents in domestic and export markets due to which, on the one hand the cost of production gets increased and on the other hand they are not getting the remunerative price of the product, woven by them. Hence, there is need to develop and provide sufficient marketing facilities to fulfill the desires and needs of the customers with quality parameters in domestic as well as international (export) market. The recent government policy has laid great stress on exploring the possibility of increasing the country's foreign exchange earning through the export of value added items. The need arises to suggest various measures to assist the rug weaver in the light of Government's new thrust to expand the markets in such a way that the rug weavers will be able to make products of higher value which will raise the income besides increasing the foreign exchange earning.

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INFLUENCE OF SOURCES OF INFORMATION ON CONSUMER BUYING BEHAVIOUR FOR NON-DURABLES

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Marketer and non-marketer dominated sources of information are determinants of consumer buying practices. The present study was planned with the specific objectives "To study the influence of Sources of Information on Consumer Buying Behaviour for Non-Durables". A total sample of 600 middle income group families of South Delhi, were interviewed for the study. Five top-most toiletries which had maximum sale in the past five years were selected from Indian Demographic Survey Report 2000 – NCAER, a list of Consumable products (1999). The results had revealed that for the purchase of all the toiletries, the major decision maker was the wife. Respondents were brand loyal and were found sticking to the brand they were using for years. Analysis of the data of present study had shown that quality and price of the brand purchased, was the most preferential reason for purchase of all the selected toiletries. Analysis of the results had shown that maximum number of respondents had used Advertisement – (a Marketer Dominated Source of Information) as a source of information for the purchase of selected toiletries and thus, they ranked it first. Whereas, Reference Group including family, friends, relatives – (non-marketer dominated source of information), were used after advertisement, for the selected toiletries, and thus, was ranked second. Though studies had shown that advertising and sales promotion go hand in hand, but still Sales promotion was ranked third. "New & Reviews, Programme & Happening" and "Publicity and Public Relation" were ranked, fourth and fifth respectively. Further, as majority of the respondents were well educated, therefore, they might not have believed much in Sales force as the source of information and therefore it was ranked sixth.

KEY WORDS: Buying Behaviour, Non-durables, Marketer Dominated Sources of Information, Non-marketer Dominated Sources of Information.

During the early nineties, India made a dramatic transition in its market. From being a supply-constrained, it became a demand-driven economy. This is because of the rising purchasing power of consumers with higher propensity to consume, with preference for sophisticated brands which would provide constant impetus to growth of the white goods industry segment.

The Finance Minister (Shri. P. Chidambaram) in parliament remarked "the economy has moved decisively to a higher growth phase as per the Economic survey in 2007-08". Annual Economic Report (2008 – 2009) showed that the Indian economy had achieved an annual growth rate of plus 9 percent during the three fiscal years ending March 2008, but had been showing sign of slowdown for the past several months. There are some industry and services sectors which showed good resilience, e.g. consumer goods, cement, telecommunication, and pharmaceutical. The domestic consumer product markets have become intensely competitive both in durable and

non-durable segments. In an environment, where supply is no longer a constraint, consumers are demanding more and better quality products at a much lower price.

Index of Industrial Production (IIP) witnessed higher growth of consumer non-durables in February 2008. Confederation of Indian Industry (CII) had also found that the Fast Moving Consumer Goods (FMCG) sector is the fourth largest sector in the economy, with a total market size in excess of Rs. 60,000 crore. By 2015, the sector is predicted to scale up to US\$33.4 billion (IIP, 2008).

This growth in industry sector, increased GDP and increased consumption, are mainly due to large middle-class population of India and their rising level of affluence. Researchers have also found that middle class serves as the real demand base for manufactured products and the relatively better off segment of this class literally forms the consumption community of the country. They have grown more innovable and amenable to new product and ideas and always want to try things that they had seen through advertising, magazines, internet, newspaper or known through friends, relatives or neighbours. Middle income group rely on such kind of sources in order to know about new or existing products in the market.

Sources of information:

Sources of information are an endeavor of presenting a set of messages to a target market through multiples cues and media. An individual, a family or a consumer, relies upon these multiple tools or sources of information to obtain information regarding the product.

The sources of information which influence the purchases of consumer are Marketer-dominated and Non-marketer dominated (Shrivastav and Khandani, 2002). Marketer-dominated sources of information include Advertisement, Sales promotion, Publicity and Public relations that are delivered through mass media and Sales force that is delivered personally. Non-marketer dominated sources of information, includes News, Reviews, Programmes and Happenings that are delivered through mass media and Reference group (family, friends, neighbours, relatives and opinion leaders) that are delivered personally.

Various sources of information develop a belief and an attitude of the consumer towards a product, which sometimes helps in making a quality choice. However, most of the time, the information provided by these sources may be incomplete, fake and ambiguous, which would lead to dissatisfaction after the purchase is made. Satisfaction occurs when customer's expectations are met or exceeded and purchase decision is reinforced (Assael, 1993). Satisfied consumer will purchase the product again and again, get loyal towards the brand and do positive publicity and thus, add to a positive consumption experience. Whereas, dissatisfaction leads to fewer or no purchase; complaining to legal authority, store or manufacturer, or to private or government agencies, warning friends or doing negative publicity, or initiating action (Shrivastav and Khandani, 2002).

The present study has therefore been conducted, to identify the non-durable goods most commonly purchased by the middle class families and to analyse the buying practices of consumers with regard to non-durable goods.

METHODS AND MATERIALS

The present research has been carried out to study the influence of various market strategies which influence the consumer buying behaviour during the purchase of selected non-durable goods. The methodological steps and procedure followed to carry out the present investigation are as follows:

Inclusion Criteria of the subject

1. They must belong to the Middle income group.
2. Respondents should be the main decision maker, for the purchase of non-durable goods and may be either husband or wife *or* both husband and wife *or* husband, wife and children

Sampling Method

For collecting information, South Delhi was selected as the locale. For sample selection, a list of MIG colonies of South Delhi was obtained from Delhi Development Authority (DDA). From the list, 10 colonies were selected by lottery system. In order to select the families from each colony, a list of residents was obtained from the Resident welfare association. Random sampling was done for each colony, to select 60 families who fulfill the inclusion criteria. Hence, a total sample of 600 middle income group families of South Delhi, were interviewed for the study.

In order to elicit detailed and accurate information, an interview schedule was developed. A structured interview schedule, comprising of both close-ended and open-ended questions was formulated. A pretest was performed to ensure the language clarity and applicability of the interview schedule.

To establish internal consistency, **Test-Retest** method to establish reliability was used. Retest was done by interviewing 30 families again, out of the total 600 families already interviewed and then later on, both the scores were compared.

$$r \text{ rel Score (durables)} = 0.9940$$

$$r \text{ rel Score (non-durables)} = 0.9943$$

$$r \text{ rel} = 2r / 1 + r$$

Where $r \text{ rel}$ = reliability coefficient and

r = correlation coefficient

Since, the computed r values were found significant, the scales were said to be consistent.

ANALYSIS AND INTERPRETATION OF DATA

The entire data of 600 respondents was coded initially. The open ended questions were made close ended by seeing the range of responses and code sheet was devised for all the questions. Coded data was transformed to the master sheets. Following this data, tabulation was done. Frequencies of responses against their codes were tabulated and their percentages were calculated. Further, data was analysed and conclusions and inferences were made in the light of the objectives of the study.

The method of rank order was used for some aspects like the outlet used for the purchase, reasons for the purchase from particular outlets and the sources of information used by the respondents in

the purchase of consumer non-durables. For getting the rank values, the method of giving the greatest weightage, which was in the order of ranking, was used. Bar graphs and pie charts were used for greater clarity of projection of data, wherever necessary.

Selection of non-durable goods

In order to fulfill the first objective of the study i.e., to identify the most commonly used non-durable goods by middle class families, review of literature had indicated, that among various FMCG products, toiletries had registered a 15% growth in 1999-2000 (CII). Therefore, as per the Indian Demographic Survey Report 2000 – NCAER, a list of Consumable products (1999) was obtained, which highlighted the market sale of the products. From this list, five top-most toiletries which had maximum sale in the past five years were selected. The selected non-durables (Toiletries) were:

- i). Toilet Soap
- ii). Tooth Paste
- iii). Washing Powder
- iv). Washing Cake
- v). Shampoo

RESULTS AND DISCUSSIONS

Personal profile of the respondents included their age, education and occupation, family size, family stage, family type, professional status of women and monthly expenditure of the family.

Analysis of the results had indicated that out of the total sample of 600, age of the respondents ranged between 25 to 72 years with highest percentage (69%) in the age group of 25 to 40 yrs. As far as education level of the respondents was concerned, it was found that the sample was well educated with 42% having post graduate degree and nearly 22% were graduates. Further, 33.5% of the sample had done some professional course. The sample respondents were from different types of occupations, with majority (83.5%) in service, and around 13% of them were running their own business. Family size of the respondents ranged between 2 to 8 members. It was found that around 47% of the respondents had small families, with nearly 22% having large families.

Nearly two-third of the respondents were in the expanding stage of their family life cycle with the majority (73.2%) belonging to the nuclear families. Analysis of the professional status of women indicated that 40% of them were working with nearly 60% nonworking. Monthly expenditure of the respondents ranged from Rs. 26000-59000, and nearly half of the respondents were found spending between Rs. 26000 to Rs. 37000. Further, nearly one-fourth of the respondents were spending less than Rs. 26000 per month. The data on these aspects is tabulated in Table 1.

Table 1: Personal profile of the respondents

S.No.	Personal Characteristic	N=600
1.	Age	
	25-40 yr	412 (68.7)
	41-56 yr	156 (26.0)
	57-72 yr	32 (5.3)
2.	Education level	
	Under Graduate	10 (1.7)
	Graduate	129 (21.5)
	Post Graduate	252 (42.0)
	Ph.d	8 (1.3)
	Professional Course	201 (33.5)
3.	Occupation	
	Service	501 (83.5)
	Business	77 (12.8)
	Retired	22 (3.7)
4.	Family Size	
	<4 (Small)	281 (46.8)
	4 (Medium)	186 (31)
	>4 (Large)	133 (22.2)
5.	Family Stage	
	Beginning	137 (22.8)
	Expanding	449 (74.8)
	Contracting	14 (2.3)
6.	Family Type	
	Nuclear Family	439 (73.2)
	Joint Family	161 (26.8)
7.	Professional Status Of Women	
	Working	241 (40.2)
	Non-Working	359 (59.8)
8.	Monthly Expenditure (Rs.)	
	<26000	141 (23.5)
	260001-37000	309 (51.5)
	37001-48000	117 (19.5)
	48001-59000	24 (4.0)
	>59000	9 (1.5)

Buying behaviour for the purchase of non-durables

When purchasing a product there are several processes, which consumers go through. Consumer buying behaviour is how and why people purchase goods and services. The term covers the decision-making processes from those that precede the purchase of goods or services to the final experience of using the product or service. Consumer buying behaviour draws together the various influences on and the process of the buying decision

It was of interest to note that there was no variation found amongst the different toiletries and the same buying practices were followed for all of them. Therefore, the common results for all the toiletries are presented for the purpose of discussion.

As far as frequency of purchase of non-durables was concerned, many studies had shown that non-durable goods are required daily or for frequent use by the families, therefore consumers buy these goods at least once a month. In the present investigation, it was found that majority (91%) of the respondents purchased all the selected toiletries monthly and very few of them purchased the toiletries, either quarterly or occasionally. Further, not much difference was found in the frequency of purchase among the various toiletries including tooth paste, toilet soap, washing powder, washing cake and shampoo.

Scrutiny of the results of the present study had also indicated that the respondents visited retail shop the most and thus, ranked it first. Convenient location and customer intimacy were the reasons cited by the respondents for visiting this outlet. Cash was the most preferred mode of payment used during the purchase.

The results had revealed that for the purchase of all the toiletries, the major decision maker was the wife (43.7%) as most of them were non-working. Interestingly, husbands alone were not at all involved in the decision making for the purchase of toiletries, a finding supported by Upadhyay (1998), where he quoted that in urban sectors, the role of husband as a purchaser reduced to 20% in case of washing powder, washing soap and bathing soap. On the other hand majority (61%) of the respondents tried different brands of toiletries available in the market because of the various promotional schemes offered by the manufacturer.

There could be various factors which guide the consumer to follow a particular pattern of purchase with regard to the brand chosen. It was indicated that the respondents of the present investigation were quality conscious, besides considering the price of the toiletries. Further, they were selecting the products on the basis of their past experience and reliability of the manufacturer. Easy availability of the product in the market and its economical use were not given much priority while selecting the products.

Sources of information used for the purchase of non-durables

Indian consumers rely on a mix of media for information. An article reported that traditional sources such as newspapers (67% for national and 76% for local) and television (72% for major network or cable and 64% for local) as well as nontraditional sources such as search engines (67%) and word of mouth (51% for advice from family/friends) were the top choices (Ketchum online magazine, 2007). Further, it was explained that consumers in Brazil, India and China generally rated media channels as more credible than did consumers in Russia and the United States. National newspapers had their strongest credibility in Brazil and India. Social networking (38%), blogs (30%) and video sharing and networking sites (31%) were used by about one-third of the Indian population. This mix media used by Indian consumers influenced their purchase with regards to goods and services available in the market.

As one of the objectives of the present study was to find out the various sources of information used by the sample respondents while purchasing non-durables, thus, an attempt was made to gather information on this aspect.

A study by Nair and Pillai (2007) investigated the purchase pattern of cosmetics among consumers in Kerala and had found that Advertisement served as the major source in providing information about brands of cosmetics to the respondents. Another major source of information was found to be friends. Percentage of females consumers were higher in the category of those who received the information from family and friends compared to their male counterparts. But more men consumers depended on advertisement compared to women. The source of information of brands for 44 per cent of the housewives was advertisement, 28 per cent got it through friends and another 20 per cent through family members. The main source of information of brands among the student groups was friends, while 30 per cent got it through advertisement. Around 60 per cent of businessmen, 50 per cent of professionals and 57 per cent of executives got information about new brands through advertisement.

Table 2: Sources of information used for the purchase of non-durables (N=600)

S. No.	Sources of information	Toiletries (Non-Durables)	
		Score	Rank
1	Advertising	3019	1 st
2	Sales promotion	1854	3 rd
3	Publicity & Public Relation	1203	5 th
4	Sales Force	0	0
5	News and Reviews Programs/ Happening	1535	4 th
6	Reference Group	2633	2 nd

Respondents in the present study were asked to rank the enlisted marketer and non-marketer dominated sources of information according to their preferences of use. Each source of information was scored separately and later cumulative score was used for the analysis.

Analysis of the results had shown that maximum number of respondents had used "Advertising" as the Marketer Dominated Source of Information for the purchase of selected toiletries and thus, they ranked it first. This may be because advertising has its own charm, instantaneous transmission capability and universality of appeal and also the toiletries belong to FMCG category with innumerate varieties available in the market. Advertising therefore, is a good source and a powerful tool of providing information to the consumers regarding the price, the use and method or instruction to be followed for the product etc.

Further, Reference Group including family, friends, relatives i.e. the non-marketer dominated source of information, was used after advertising, for the selected toiletries, and thus, was ranked second. Generally, it is seen that as far as the toiletries are concerned, everyday new brands are introduced in the market with add-on features, which makes the decision making difficult for the consumers. Therefore, the consumers rely more on the information gathered from the reference group who have experienced the use of these products. Further, as discussed earlier, wives were found to be the main decision maker and therefore they generally gather information from reference group for the purchase of toiletries. Though studies had shown that advertising and sales promotion go hand in hand, but still Sales promotion was found to be ranked third in order

of use as the sources of information for the purchase of toiletries. As the toiletries are not very expensive but frequently purchased item as compared to durables therefore, consumers did not mind switching over from one brand to another due to sales promotion offers from the manufacturers.

As far as "News & Reviews, Programme & Happening" and "Publicity and Public Relation" were concerned, respondents did not find much information for toiletries through these sources of information. Therefore, they were ranked, fourth and fifth respectively. Further, as majority of the respondents were well educated, therefore, they might not have believed much in sales force as the source of information.

CONCLUSION

After studying the buying behaviour of the consumers with regard to the purchase of selected non-durables, it can be concluded that, the sample interviewed was young and educated and were mainly in service. They had small size family, majority were in expanding stage of family life cycle and were staying in the nuclear families. In most of the cases women's were non-working. It was also found that monthly purchase was made from retail outlet using cash as their mode of payment for the purchase of toiletries. Wife was found to be the main decision maker during the purchase and they kept on trying different brands along with being quality conscious of the selected toiletries. Advertising was the most popular source of information for the purchase of selected non-durables. After advertising, reference group was their second choice. Sales promotional schemes i.e. discount offers; price packs etc were other attractions for the consumers, whereas, news reviews, publicity and PR were ranked last indicating that the respondents were not using these sources of information while purchasing the non-durables.

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EMPOWERMENT OF WOMEN SARPANCH THROUGH PANCHAYATI RAJ INSTITUTIONS (PRIs)

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This paper investigates the empowerment of women sarpanch of Jaipur district in terms of their decision making power at household level and the problems encountered by them while performing their duties as sarpanch of Panchayati Raj Institutions (PRIs). It also throws light on the opinion of family heads and villagers regarding the role played by women sarpanch. Three panchayat samitis of the district where the entire gram panchayats were headed by women sarpanch were selected for the study. Interview schedules and focus group discussions were used as a data collection tool to gather information. Results showed a limited positive shift in power structure at household level. The women sarpanch also faced problems mainly due to lack of education and restricted mobility. There were differences in the perceptions of male and female villagers regarding their role as sarpanch. By becoming sarpanch at village level, the women have taken the first step forward in playing an active role in local governance. This would lead to their empowerment at both household and societal level.

KEY WORDS: Women Empowerment, Sarpanch, Panchayat, Panchayati Raj Institution (PRI)

Empowerment is a multi-dimensional process that fosters power in people for their own lives. It helps people to realize their capabilities, strengths and power and power relationships. Although women constitute nearly half of the world's population but due to patriarchal society, Indian women occupy a subordinate position to men. They have very little control over resources, to be more precise, in decision making. Denied opportunities for their own development, they are unable to play a constructive role in national development.

According to Schuler and Hashemi (1993), the process of empowerment should weaken the systemic basis of women's subordination. It is not only advantageous for them but also for the society as a whole. It is a process through which change in power balance can be achieved. The passage of the 73rd Amendment Act, 1993, in India, by virtue of a legislative action, granting 33 per cent reservation for women in Panchayati Raj Institutions (PRIs), aimed at decentralizing the power and also removing the gender imbalance and bias in the institutions of local self governance. It is a landmark in the sphere of political empowerment of women. It provides an opportunity to the women of rural India to acquire a position of power in the three-tier Panchyati Raj system at village, block and district levels.

There is no denying the fact that there is a huge gap between the constitutional guarantees and daily realities of women. Samar Singhe (1993), in her study of women tree plantation workers reveals that the development strategies which simply increase women's access to resources may not necessarily ensure their empowerment. Women empowerment in general requires systemic

transformation in not just any institutions, but fundamentally in those supporting patriarchal structures (Sahay, 2005). To measure women's empowerment more fully and in its broadest sense, it is necessary to add an individualized component representing her political autonomy to the autonomy within the family (Satyanarayana, 2008). The household and inter familial relations are a central locus of women's disempowerment. Any change in power structure must begin from there. Any additional and novel experience must enhance their position at household level first. Secondly, they must also be given a helping hand by family and society at large to perform the given task meaningfully.

In the light of the above discussion, the present study was carried out in Jaipur district of Rajasthan to study (a) the background profile of women Sarpanch of PRIs; (b) the problems faced by them; (c) their empowerment at household level; and (d) the opinion of family heads and villagers regarding the role played by them at home and at work. In the present study, the usage of the term empowerment is confined to the decision making power of women Sarpanch at household level.

METHODOLOGY

Jaipur district, situated in eastern part of Rajasthan covers an area of 14,068 sq km (4.11 per cent of the state). According to the 2001 Census, the total population of the district was 1,959,717 of which 1,043,533 were males and 916,184 females. The total literacy rate was 69.9 per cent and female literacy rate was 55.52 per cent. Out of 13 panchayat samitis in the district, three, namely Amber, Sanganer and Jhotwara were purposively selected for the study. All the Gram Panchayats of the selected panchayat samitis which were headed by women sarpanch were included in the study. A total 29 women sarpanch, 16 of Gram panchayats of Amber, 8 of Gram panchayats of Sanganer and 5 of Gram panchayats of Jhotwara constituted the sample. The total sample size was 28 as one of the woman sarpanch and her head of the family refused to be a part of the study.

The validity of the interview schedule as a tool was tested before data collection began. The women sarpanch and their head family members were interviewed separately. To conduct each interview it took approximately 60 to 90 minutes. Another method used was Focus group discussions (FGDs) to obtain the opinion of the villagers which was conducted separately for male and female groups of villagers.

RESULTS AND DISCUSSION

Background Profile

Socio-economic status in general and political background in particular is an important determinant for emergence of rural woman's leadership and their effective participation in PRIs. Data revealed that majority of the women Sarpanch (61 per cent) were in upper middle age group (41-60 years). While 60 per cent were housewives, 36 per cent were agricultural labourers and the remaining was engaged in running petty businesses. All were married and more than two third (68 per cent) of them belonged to nuclear families and remaining to joint families. As regards their educational status, only one fourth had a minimal formal education. The remaining 75 per cent were only able to sign their names. A wide variation was seen in their family incomes. Half of them (50 per cent) had monthly family incomes between Rs 5,000 to Rs 10,000. While 18 per cent had family incomes of less than Rs 5,000 per month, 25 per cent had family incomes of over

Rs 20,000 per month. The family incomes of the remaining 7 per cent ranged between Rs 10,000 to Rs 15,000. An overwhelming percentage of women belonged to the backward and marginalized castes. While only 18 per cent were from general caste, 43 per cent were from Other Backward Classes, 19 per cent from Scheduled Caste and 18 per cent from Scheduled Tribe.

In 1957, when the Balwant Rai Mehta Committee recommended the induction of two women in panchayats, generally the women from the influential and dominant castes were nominated or co-opted as members (Singh, 2008). However, since the passage of the 73rd Amendment Act, 1993, women from the less influential families have started getting elected. It is an encouraging sign towards bridging the gap between the haves and have-nots and bringing the women of poor and backward sections of society in the mainstream of development process.

For all the women Sarpanch, entering into political leadership was a maiden experience. The primary inspiration to contest the election came from the family members (40 per cent), village community (32 per cent), reservation for women in PRIs (22 per cent) and friends (6 per cent). Although the inspiration came from different sources yet all got full support of the family to contest the elections, except a solitary woman Sarpanch. Significantly, one third women belonged to the families which were already in politics. Rani (2001) also found that higher the political background of the family, greater will be emergence of rural leadership. Chauhan (2003) reported that women having a political background were the first to take advantage of reservation under the 73rd Amendment Act. Most of them were dependent to a large extent on the support of their husbands and family members for work and decision making in the institution.

Empowerment of women Sarpanch at household level

PRIs have been recognized as vehicles of socio-economic transformation of rural India. They are the grass root unit of self-government playing a pivotal role in bringing changes in power structure and role of women in rural communities. In Indian society, women are called *grahlaxmi*, but paradoxically they have very little say in decision making at household level. Their role is more like domestic workers.

It is evident from the table that the rural women had little say in decision making regarding certain matters before becoming sarpanch. Only one (4 per cent) woman sarpanch had power of decision making regarding planning size of the family and none regarding their own employment and marriage of children. The power of decision making was better in case of selecting her clothing (67 per cent), using veil (61 per cent), using birth control measures (54 per cent), cooking for the family (43 per cent), health and education of children (50 and 25 per cent respectively).

A shift in decision making was reported by women Sarpanch after becoming Sarpanch. Considerable improvement in decision making power was reported regarding sale and purchase of household items (18 to 39 per cent), cooking for the family (43 to 61 per cent), educating children (25 to 50 per cent), use of veil (61 to 71 per cent) and selection of clothes for themselves (67 to 90 per cent). However, there was no change in decision making as far as her mobility (unchanged at 14 per cent) and use of birth control measures (unchanged at 54 per cent) is concerned. Table 1 presents the shift in decision making power of women Sarpanch before and after joining PRIs on various indicators.

Table 1: Decision making power of women sarpanch at household level (N=28)

S.No.	Indicators	Before becoming sarpanch	After becoming sarpanch
1	Planning size of family	1 (4)	2 (7)
2	Use of birth control measures	15 (54)	15 (54)
3	Personal mobility	4 (14)	4 (14)
4	Selection of clothes for herself	19 (67)	25 (90)
5	Using veil	17 (61)	20 (71)
6	Getting self employment	-	1 (4)
7	Health of children	14 (50)	16 (57)
8	Education of children	7 (25)	14 (50)
9	Marriage of children	-	1 (4)
10	Cooking for family	12 (43)	17 (61)
11	Purchase and sale of household goods	5 (18)	11 (39)

(Figures in parenthesis indicate percentages)

Problems faced

The problems faced by women Sarpanch were analysed under two categories, namely, those faced at household level those faced at the work place.

(a) At household level

The problems faced by women Sarpanch at the household level are shown in Table 2.

Table 2: Problems faced by women Sarpanch at household level

Items	Multiple response (N = 28)	
	Frequency	Rank Order
Lack of time to do household task	13 (46)	2
Lack of time to visit relatives and friends	12 (43)	3
Health of children gets neglected	2 (7)	9
Education of children gets neglected	4 (14)	7
Restrictions to attend meetings alone	11 (39)	4
Restrictions to go out of village due to work	13 (46)	2
Get physically tired	17 (61)	1
Get mentally stressed	10 (36)	5
Restrictions on sharing views in meetings	1 (4)	10
Restrictions to talk to male colleagues	3 (11)	8
Husband is against participation	6 (21)	6

(Figures in parenthesis indicate percentages)

The five major problems reported at the household level were physical exhaustion (61 per cent), restriction to go out of village due to work and lack of time to do household work (46 per cent each), lack of time to visit relatives and friends (43 per cent) and restrictions to attend meetings alone (39 per cent). Significantly, two of the five major problems relate to external situations, namely the restrictions put on them by their family members due to the nature of their responsibilities at work. Men's attitude and behaviour are the primary factors in constraining the promotion of women leadership (Rao, 2007). Their actual work led to a significant involvement

of their time. As a result, they were left physically exhausted and with little time to do household work as well as meet relatives and friends. Pazhani (2001) also reported that women found it difficult to allocate more time for panchayat work due to their household responsibilities. The women elected in PRIs carry the double burden of family as well as the official work of panchayats (Singh, 2008).

(b) At workplace

The problems faced by women Sarpanch at their work place are shown in Table 3.

Table 3: Problems faced by women Sarpanch at work place

Multiple response (N = 28)

Items	Frequency	Rank order
Lack of knowledge regarding rules and procedures	18 (64)	1
Unable to conduct meeting alone	13 (46)	3
Lack of education	15 (54)	2
Hesitation to interact with males	12 (43)	4
Difficulty in getting work done from other members	11 (39)	5
Caste conflicts	5 (18)	6

(Figures in parenthesis indicate percentages)

At the work place, the three major problems reported were, namely, lack of knowledge regarding rules and procedures (64 per cent), lack of education (54 per cent) and inability to conduct meetings alone (46 per cent). As three fourth of the women sarpanch possessed no formal education, it was obvious that this was coming in their way of discharging their duties and was responsible for their problems at the work place.

Opinion regarding role played by women Sarpanch

(a) By family heads

The opinion of family heads regarding the role of women Sarpanch, both within their households as well as the work place, is given in Table 4.

Table 4: Opinion of family heads regarding the role of women Sarpanch (N = 28)

Items	Agree	Uncertain	Disagree
Social status of family has increased	23 (82)	-	5 (18)
Neglecting family responsibilities	2 (7)	4 (14)	22 (79)
Taking independent decisions	2 (7)	7 (25)	19 (68)
Disputes in household increased	5 (18)	6 (21)	17 (61)
Acting as responsible leader in work	24 (86)	3 (11)	1 (4)
Contributing towards village development	28 (100)	-	-
Overall performance is satisfactory	26 (93)	1 (4)	1 (4)

The feedback obtained portrays a very favourable position of women Sarpanch by their respective family heads. Family heads opined that the women Sarpanch were acting as responsible leaders and contributing towards village development without compromising on their domestic duties and responsibilities. In addition, the social status of the family had increased due to the new role they were playing. It is clearly indicative of acceptance and approval of new role of women by their

family heads of their households. It may be also due to the fact that the power and position is enjoyed by the entire family.

(b) By villagers

Most of the male villagers were of the opinion that women were not as capable leaders as men. Their active and real participation in PRIs was negligible. Either they were not attending the meetings or were accompanied by male members. They were dependent upon the male members of their families to take decisions. In fact, they were merely puppets in the hands of their husbands/sons. Rao (2007) also viewed that the proxy representation is a gap in empowerment of women in panchyats. Lal (2005) also commented that by and large elected women representatives are dummy surrogates and still dominated by male members. Sutar (2007) also reported similar findings.

The female villagers opined that women Sarpanch were as efficient leaders as men but were unable to attend panchayat meetings regularly and fulfil their responsibility, possibly due to household work and domestic pressures. However, in individual cases, if approached, they were found to be more sensitive to the people's problems and took personal interest to rectify them. In a case where a woman was being beaten by her husband, the male Sarpanch was reportedly not taking any action but the woman Sarpanch took personal interest and took action in this regard.

Both male and female villagers admitted that the women Sarpanch were carrying out development works in the villages. However, they were also indulging in favouritism and acting at the instance of their husbands or other male members of their family. They hardly rose above the family interests and became rich after becoming Sarpanch.

CONCLUSION

The 73rd Amendment Act has paved the path for rural women to enter into the local governance and take part in decision making process. For all women Sarpanch, it was the first experience of its kind. In conclusion, the women Sarpanch have taken the first step forward in playing an active role in local governance. This would definitely go a long way towards empowering them as well as the other village women. There was a positive shift in power structure of women Sarpanch at household level. There were differences in the perceptions of male and female villagers regarding the role played by women Sarpanch: the men perceived them incapable leaders and merely puppets in the hands of male members of the family while the women perceived them as capable and more sensitive and concerned regarding women issues. Overall, the family members and villagers showed satisfaction regarding their work performance. The maiden experiences of women Sarpanch were not without impediments. The crux of the problem lies in the age old societal attitudes towards women in India.

The need of the hour is to change the socio-cultural fabric in terms of position and role of women in society. A three pronged strategy is required. First, the male members need gender sensitization. Second, the women Sarpanch require orientation, on-job training and in-service support. Third, male members need to share the household work with women. These measures would act as a springboard for women Sarpanch to perform efficiently in PRIs and hence play a

constructive role in nation building. Consequently, empowerment of women in general and women Sarpanch in particular will result on its own.

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GOTA WORK OF RAJASTHAN—PAST & PRESENT

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India has vast reservoirs of Traditional Craftsmanship. The Traditional crafts are passed on from one generation to another with innovation to suit the changing needs. *Gota* work is such a craft which originated in history and has come of age now. *Gota* work had remained unrecognized for a long period of time but recently there has been an increase in its demand because of the vastly spreading Boutique culture. *Gota* work is a court embroidery which is done by the weavers with gold and silver threads. It is also known as "Badla work". Traditionally it was done on *cholis*, *ghagras*, saris and *odhini's* but today there is a drastic change according to fashion where *Gota* work is used on salwar kurta, short kurtis, topper, skrits, *cholis*, *ghagras*, *odhini's* and saris. This embroidery is mainly practiced in, Sikar, Ajmer and Jaipur of Rajasthan. The stitches used are back and running. The motifs used are mainly geometrical, stylized animals, flowers, birds and human figures. The present study is a documentation of the *Gota* work of the past and the present.

KEY WORDS: *Gota* work, colour, motifs, designs & products

Gota work is a special kind of embroidery using the appliqué technique. It is a form of fabric ornamentation believed to be introduced in India during the medieval times. This art form was further enriched & patronized in the Mughal era, 1200 AD to 1700 AD. *Gota* work is a craft of a place called Sikar in the northern state of Rajasthan in India. Whatever be the origin, what cannot be denied is the beauty of the stitch and effect, which till today holds people mesmerized. The process of *Gota* work is quite interesting. The motifs are designed and then drawn on paper, further with the help of needles the lines are pricked through them with charcoal powder rubbed on the perforated holes to transfer the designs on to the fabric which is firmly held on to the *adda*. Then according to the shape and size of traced motifs the *Gota* (appliqué) is cut and prepared and then placed on the fabric. Then with the help of the matching thread a flat formalized appearance is given to the *Gota* design using running, back or hem stitch.

Gota work is used in various items such as *sarees*, *kurtas*, *salwars*, *stoles*, *duppattas*, jackets, *lehnga chunni*, *jhooti's*, cushion covers, bed covers, purses, bags, pouches, toran, and file folders. Further in combination with beads, sequences, *kundan*, *zardozi*, mirrors and *makkaish*, *Gota* work gives it a definitive style.

The traditional *Gota* craft is a tribute to the exceptional skills of the craftsmen of Rajasthan. Dexterous hands create complicated motifs which are churned in perfect synchronization, giving the computerized and fine stylized embroideries a run for their money. The embroidered motifs require high level of concentration, and are created on almost all kinds of fabric like georgette, chiffons, tussar silk, velvets, crepe, *bandhani*, cotton and voile, symbolizing auspiciousness and prosperity. If there is any embroidery which is subtle with a royal aura, it is the *Gota* work. They form a part of every woman's ensemble in India may it be formal or informal, creations for

summers or winters. Resplendent in pastels of every hue, though it is done on a host of fabrics, it is the cotton ones that stand out exceptionally.

Gota work from Rajasthan is one of the few handwork items which have thrived in the onslaught of modernity. In spite of new innovations in the fashion world, *Gota* has managed to retain its edge. This is the result of constant innovation and introduction of new designs and styles by designers, government bodies, NGO and co-operatives. However, traditional *Gota* embroidery has evolved over the years with several changes in colours, motifs & designs.

Hence the objective of the present research was to examine the colours, motifs, designs & products of *Gota* work of the past and present.

METHOD USED

Locale of the study

Since Jaipur is well known for its *Gota* work all over the world, the *Gota* units & shops of Jaipur were an ideal locale for this exploratory study.

Selection of the sample

A total number of fifty units were selected purposively & information was gathered from the manufacturers & shopkeepers of the *Gota* units. Other secondary sources were historical literature, documents & internet.

Development of the tool

Keeping in mind the problem statement, an interview schedule was developed as it was considered the most appropriate technique to gather information about the color, motifs & designs of *Gota* work of the past & present. The method helped to collect detailed information from the respondents, Open & close end questions were used to collect information.

Data Collection

The shopkeepers, manufacturers & workers were personally approached & interviewed to collect the desired information.

Analysis of the data

After collection of data, the same was coded & analyzed.

RESULTS & CONCLUSION

It was found that till the recent past, *Gota* work existed only in gold and silver, whereas with the recent trends colored forms of *Gota* and antique *Gota* are also available in the market. We therefore see gold, silver, copper and colored forms of *Gota* being used for embroidery.

There has been a change in the motifs as well. In the past geometrical designs were found, along with peacock, paisley & floral designs, where as in the present the designs have been changed from small to large motifs. *Buttas*, *butties* & *jal* (network) work are formed as *Gota* is cut & folded into various shapes (Fig. 1a & 1b) The motifs are categorized as : *Buttas & Butties*---- Floral including *gamla*, *pan ka phool*, *jaliwala phool* & *star phool*, birds & animals including various styles of peacock, sparrow, elephant & others including *Kairi*, human figures &

palanquin. The *Jal* work included *Thali ka jal*, *Bangri ka jal*, *Kalash ka jal*, *Saras ka jal* & *patti ka Jal*.

Indian Crafts have won the admiration of aficionados all over the world because they can adapt to any setting, décor, life style and mood owing to their variety and unique attributes.

The craft tradition in India has revolved around religious beliefs, local needs of commoners as well as the special needs of patrons and Royalty. Craft work of one kind or another is carried out almost throughout the length and breadth of India, owing to the varied culture and habitat.

This documentation on *Gota* will be helpful to the forth coming generations to know of the aesthetic sense and intricacy, further more for designers, students, boutique owners, self entrepreneurs and for fashion innovators, to know the current trends and styles of *Gota* work, and the changes required in the designing skills, fabric selection, yarn selection, tools and techniques in making *Gota* work.

TERMINOLOGY

Adda - the wooden rectangular frame used to tuck the fabric and do embroidery ornamentation on.

Buta / Buti -- Motifs of single flowers, springs or trees which are very popular the early nineteenth century. There are many different types of *buti*.

Kairi buti--The classic buti shape generally represents a young or green mango. It was one of the favorite motifs of the Varanasi craftsmen and is still the most popular pattern in Indian textiles today. The *kairi* or tear drop shape with the drooping top, also known as the *ambi* motif, often forms the basic outline of the pattern and is filled in with floral compositions. Small *kairis butis* often enclose small chevron designs while the larger *kairis* sometimes encircle entire *shikarga* or hunting scenes. The tradition of filling the inner space of the *butis* was introduced in the eighteenth century by the shawl weavers of Kashmir.

Pan / mukuta buta--A heart - shaped motif filled with a floral pattern.

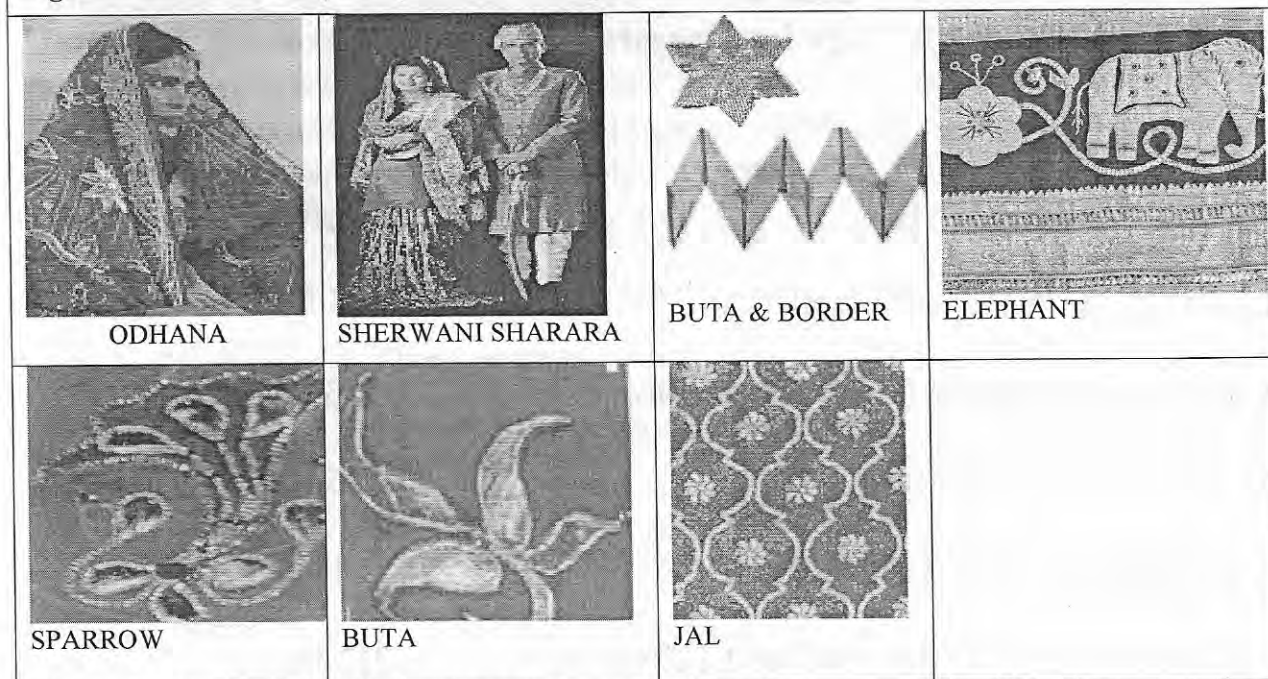
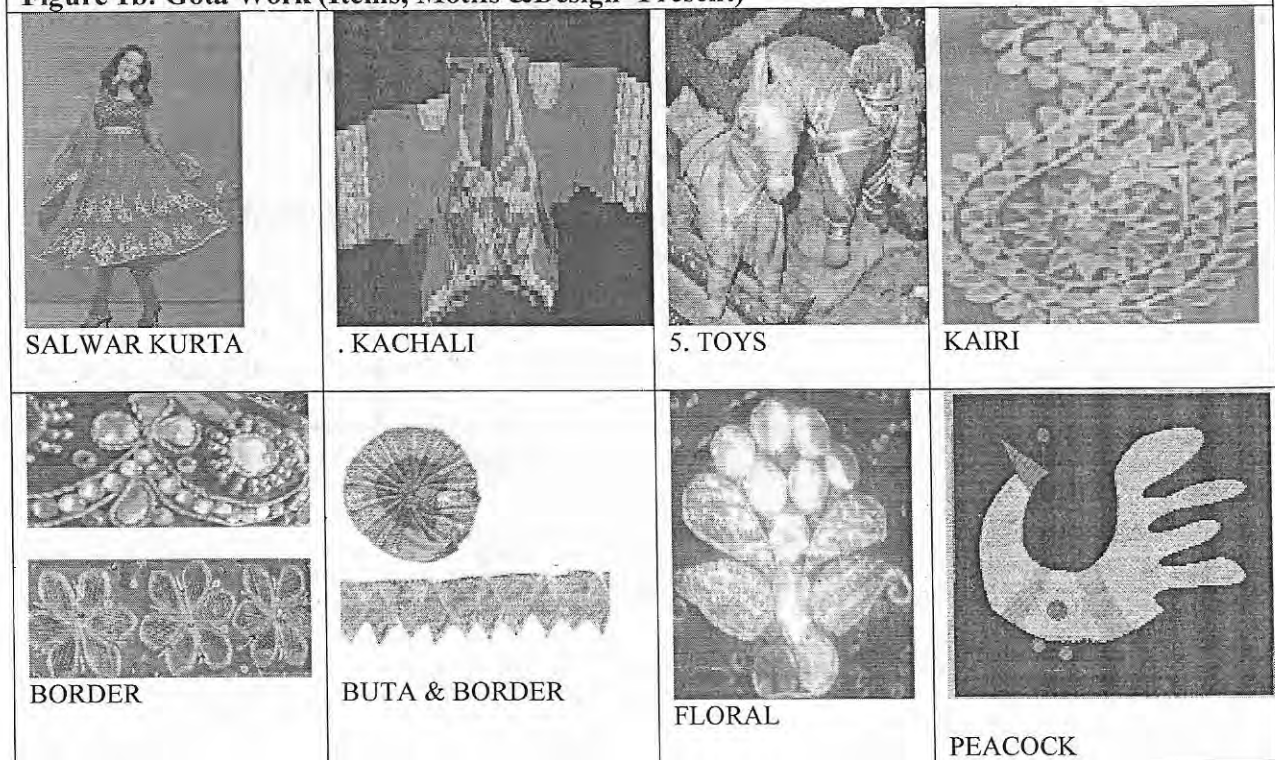
Gota - a metallic ribbon

Jal--An over- all pattern (*lit. web*) made up of squares enclosing *butis*. *Jals* come in many different patterns.

Kachali- a sleeveless bodice worn in Western India

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Figure 1a: Gota Work (Items, Motifs & Design- Past)**Figure 1b: Gota Work (Items, Motifs & Design- Present)**

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