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From The Editor's desk

In the time of unprecedented conditions due to pandemic, the role and responsibilities of the Home Scientists have presented many challenges for teaching and research. New pedagogies have been used extensively. Participation in webinar is encouraging. Efforts of the teachers for online teaching are highly appreciable. Students need applause for coping up with the work assigned and for overcoming the issues of internet connectivity at times and places.

Various issues have emerged for the Home scientists to conduct research which would have significant outcomes and strong policy implications. The Indian Journal of Home Science would encourage publishing such research papers.

Take Care.

Prof. Maneesha Shukul

THE INDIAN JOURNAL OF HOME SCIENCE

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CARPETS OF BHADOHI: A CASE STUDY

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ABSTRACT

Carpets have been an integral part of the mankind. Starting from the magic carpet of Aladdin to the halls of the Royals, it has found its way to the modern time. In the modern time also, it has its own charm and is now identified in the industry sector. In India it flourished mainly in northern region which included Jammu-Kashmir, Haryana, Rajasthan, Uttar Pradesh and Bihar. The Bhadohi-Mirzapur belt is one of the flourishing centers for the carpets, of which, carpets produced at Bhadohi made a remarkable presence. Bhadohi center of carpet manufacturing has its own characteristics of handmade carpets with respect to the knotting techniques and motifs and has marked its presence in the international market. Over the period of time it was found that handmade carpets have lost to the machine-made carpets. Most of the weavers have left their characteristic weaving pattern and adopted the machine method for production of carpet. Present research was planned to study the present scenario of the carpet industry and understand the reasons for shift. It was found that the basic reason for the weavers to shift was the time taken to produce the carpet. At present a mixed group of handmade as well as machine made carpets was working.

Keywords: Carpets, Hand knotted, Tufted, Pit loom, Oriental, Knots

INTRODUCTION

The origin of carpet goes back to prehistoric era. Prehistoric civilizations had two important cultures as Iranians and Persians who introduced the carpet weaving practices all over the world. (http://www.carpetandrugpedia.com) In the early 17th century it was said that the possession of a fine oriental carpet was the mark of wealth and luxury. The one who were involved in the affairs of East India Company used to enjoy the enviable mark of prestige with the possession of carpets. In India, the earliest pile carpet was introduced in the reign of Akbar which dates back to 1556-1605. Akbar brought *(Khurasan)* weaver from Persia and encouraged them to teach the craft and since then the carpet industry in India has flourished. During the region of Jahangir (1605-27) a distinguished Mughal style in carpet was developed. The famous pile carpets with woolen knots on silk warps and wefts were made at Agra and Lahore. The hand-knotted carpet of India speaks of the excellent workmanship which was admired and was considered the prize possession.

Carpets in India have been classified as – hand knotted woolen carpets, tufted woolen carpets, Gabbe woolen carpets, handmade silk durries, pure silk carpets, staple and synthetic carpets and chain stitch rugs. It was used as floor coverings. Each type of carpet had its own characteristics and usage. The carpet industry majorly flourished in Agra, Bhadohi and Mirzapur in U.P., Jaipur-

Bikaner in Rajasthan, Panipat in Haryana, Kashmir and Srinagar in J&K, Amritsar in Punjab, hilly areas of Himachal Pradesh, Bihar and West Bengal. In Rajasthan and Uttar Pradesh carpets are still woven and are catering to national and international market.

Purpose

The Mirzapur-Bhadohi region of Uttar Pradesh was the largest handmade carpet weaving cluster. But now, the traditional carpets with hand-knotted techniques for which Bhadohi was known is rarely manufactured and is on the verge of extinction. The weavers involved with this practice, do not encourage their future generation to continue it anymore. The wages which they earn are very low and are not sufficient according to the time spent and their requirement. The purpose of the study was to document the traditional practices and the present trend in weaving of carpets of Bhadohi.

Plate 1: Map of Uttar Pradesh

Source: www.google.co.in/search

OBJECTIVES

- To study the present status of Bhadohi carpets.
- To study the classification of carpets, looms, raw materials and motifs used for the carpets

METHODOLOGY

To fulfil the specific objectives of the study, it was carried out in two phases- Phase I included survey to collect information from primary and secondary data. Phase II comprised of preparing the data base with detailed information about carpets. The descriptive study was planned which was based on the personal interviews and observation method. The structured interview schedule was prepared to collect the detailed information from weavers, manufacturers and retailers to study the present status of the Bhadhoi carpets. Purposive sampling method was used. For collecting data personal interviews were taken, recorded and photographed. Bhadohi was selected as it has been prominently a largest hub to famous oriental Persian carpets to other various kinds of carpets. So, for the interview, the weavers were selected from Gyanpur, as, the looms of hand-knotted were existing there. Separate

interview schedules were prepared for the manufacturers and retailers to gather the data on business expansion, craft details, weaver's selection procedure, carpet manufacturing process, participation in exhibitions, connections with NGOs and government agencies. The weaver's interview schedule was based on the demographic details, acquiring the skills, their involvement in the field, problems encountered and connections with any NGOs and governmental agencies. The observation method was used to understand the tools, materials and process of the weaving as well as the designs used. The cross validation of the information received from the respondents was also done. Only 05 manufacturers, 03 retailers and 20 weavers agreed to be the part of the research.

RESULTS AND DISCUSSION

The data, thus collected from the above three groups (manufacturer, retailer and weaver) was analysed. The results for different aspects obtained have been divided into the following subheadings:

1. Present status of the carpets Bhadohi

The demographic survey revealed that the weaving was ancestral practice in all the households. Weavers were from both Hindu and Muslim community. There was not a single family which was first generation in the weaving. All were staying in joint family and owned a "Pacca" house. They did not work from home, but used to go to manufacturing unit for weaving. Their wage was based on the piece of carpet they do. It was not fixed. The income ranged from Rs.5,000 to 10,000 per month. The elders were satisfied with the income. Weavers between the ages of 20-35(50%) were not satisfied with the income and were waiting for the opportunity for better income job in any field. The manufacturer themselves only employed the weavers; they were not connected with any NGO.

The hand-knotted woollen carpets were the specialty of Bhadohi. The practice of carpet weaving brought in the reign of Mughal Emperor Akbar, dated around the 16th century, and was practiced here. The hand-made carpet weaving was time consuming as it was a very slow process on the (*kath)* loom. The buyers knew that they their orders will be delivered in two to three years. Only after completing one order on hand, the weaver would take the second order. From 'hand-knotted' weaving techniques, weavers invented 'hand tufted' techniques. Then instead of knotting, tufting was used and a fine backing was added. With the liberation of Tibet, its influence was seen in the weaving and carpets produced were called 'Indo-Tibetan' carpets. Hand-knotting technique was used but the "naksha" and motifs were influenced by the Tibetan surrounding including monasteries and dragons.

It was practiced till the mechanization invaded the carpet industry. The mechanization in processes of manufacturing had taken over the hand-knotted technique for carpet weaving and replaced it by the machine tufted method. Nowadays the woven carpets are made using both natural and synthetic fibres ranging from the nylon and wool to polyester and acrylic. The silk fibres are less used, as they require special care which is difficult to maintain. That is also one of

the reasons of shifting to the synthetic material blended with the wool. The types of carpets which are manufactured nowadays are hand-knotted, hand-tufted, hand-woven, Indo-Tibetan. The knotting technique, motif and designs are the characteristic features of the carpets manufactured here. The SWOC analysis of the industry revealed that the hand-made carpet are declining due to the reason that it is time consuming, especially the hand-knotted which was the ancient carpet weaving techniques and characteristics of Bhadohi . It takes 1 to 2 years to complete one carpet of size 6'x8'.

CLASSIFICATION OF BHADOHI CARPETS

In Bhadohi various kinds of carpets were produced. It has been a hub of attractive and beautiful hand-made carpets and recently machine-made carpets are also being manufactured. The hand work done, though only selected pieces, is so intricate that it is very difficult to make a difference between hand-made and machine-made carpets. Hand-made carpet was the ancient craft. It required specific loom which were operated manually without the use of any external energy source. The designs on carpet were achieved with knotting and tufting and warping was done according to the size. Here as each knot being inserted by hand, it was expensive and also it was uneven at the back. The hand-made carpets have famous types of carpets such as Hand-knotted, Hand-tufted, hand-woven and Indo Tibetan. The hand-knotted have been practiced since ancient time but they are time consuming due to which people were shifting to other handmade carpets and machine-made carpets

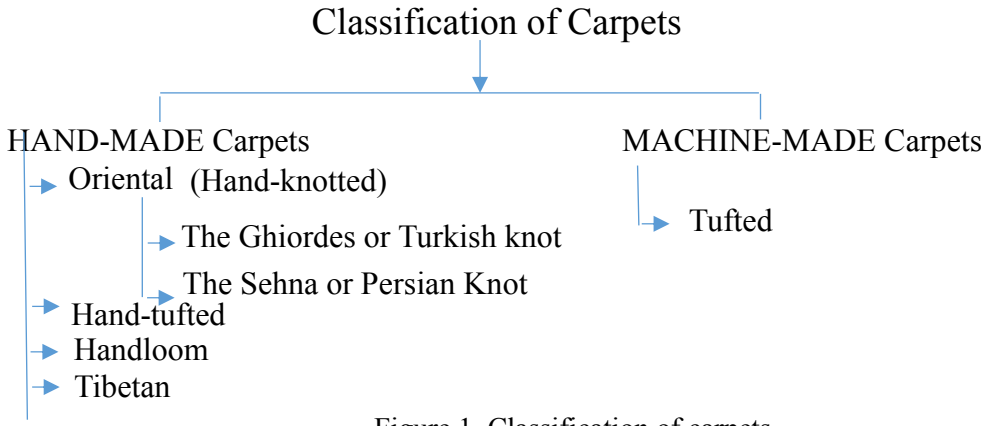

Figure 1. Classification of carpets

Plate 2: The Hand-knotted Carpet

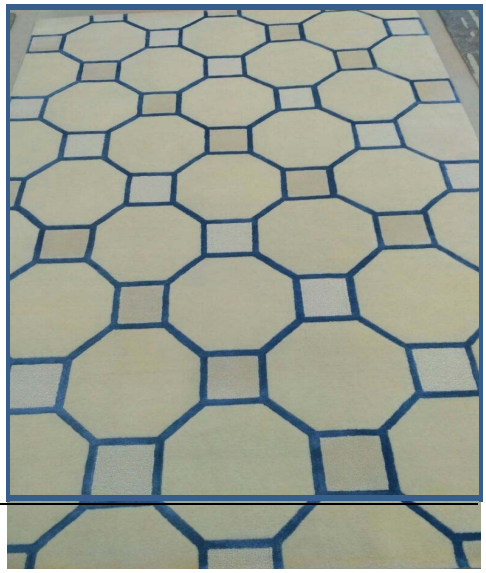

Plate 3: Hand-tufted Carpet

Source: www.iranreview.org

2. Raw materials, Looms, Tools, Knotting techniques and motifs used

*Raw material:

In Bhadohi, woollen carpets were made. The other fibres used were silk, cotton, bomboo, vicose and jute but in very small quantity either as decorative or supportive yarns. Locally available wool was not of good quality, so for better quality finer carpets, wool was purchased from Ajmer and Bikaner in Rajasthan. There in Rajasthan specified type of yarn dyeing was done with specified colour in unit called "*rangai unit*". The Bhadohi in U.P. and cities of Rajasthan use the same colour palette. After dyeing the hanks were fixed on hank holder then one strand of yarn was pulled from hank and lightly wound on bobbin which was placed on bobbin winder 'charkha'. After preparing bobbin warping was done on loom with the specified colour of yarn.

*Looms:

The looms were prepared depending upon the size of the carpets. The map, i.e.- *Naksha* was made on the graph paper. Map *(Nakshas)* were used to understand the designs according to which the knotting was done. None of the knotted carpets would be similar to each other nor can be made into. A unique work of art was created which was remarkably woven and knotted. There were different looms on which the weaving was practiced like horizontal loom, vertical loom and pit loom. The loom which was utilized most was the vertical loom as it was possible to weave intricate designs and the loom could be adjusted according to the measurements of the carpets.

Plate 4: Horizontal loom

Plate 5: Vertical loom

Plate 6: Pit-loom

Plate 7: Hand tufting

***Tools**:

There were several tools used in carpet making. The different tools which were used in the process and their functions varied according to the process adopted. The tools were made of wood and metal. Basic tools used were:

(i) (ii)

(iii)

(iv) (v)

Plate 8: Tools used: (i) Chura (Cutting tool) (ii) Blade (cutting tool) (iii) Tufting gun (iv). Kaichi (scissors) (v) Panja (tool for beating)

*Knotting techniques:

The different knotting techniques were used for the mass production in Bhadohi carpet manufacturing unit. The designs made by knotting were same for all the carpets woven at a time in the unit. These knotting techniques help in forming pile of short or long yarn length. There were four types of knots commonly used: The Ghiordes or Turkish knot, the Sehna or Persian knot, Jufti Knot and Indo-Tibetan knot.

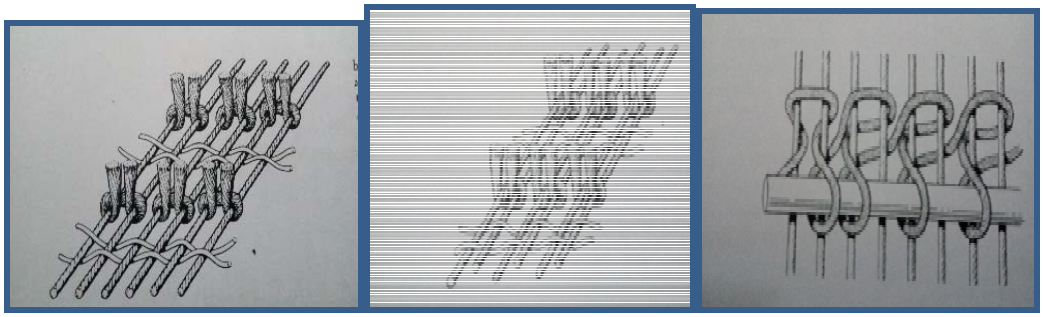

Plate 9: Turkish knot Plate 10: Persian knot Plate 11: Tibetian knot

*** Motifs**:

The motifs used in the hand-knotted carpet were inspired from the paisley, foliage, flora and fauna carpets. The motifs have changed with Chinese influence and dragons, beasts and animals were also used. The transformation in motifs was there with the increase in trade with Tibet and geometric designs were incorporated. The other realistic animals included tigers, lions, deer, cheetahs etc. have been evolved by the local people. There have been several major carpets which have set major examples of prayer rugs, old historic rugs and carpets, figurative carpets, etc. The colour and colour combinations were used to provide a soothing and traditional look to the carpet.

***Manufacturing process**:

In the initial stage the order was received which was then followed by size chart and colours. Then the production department makes a check on yarns availability of wool, silk, Bamboo, viscose. The calculation of yarn was done for the warp, weft, extra weft and tufts depending on the size and design of the carpet. According to the order the specification sheet was prepared with the list of requirements such as yarn required, colours and how many kgs of yarns. The entire list of specifications was then sent back to the factory to send the material in the calculated specific amount After entire calculation was done the yarns were handed over for dyeing which was processed by the Rangai units in Rajasthan. There were specific numbers given to all the colours in the colour palette. The naksha makers are asked to make the naksha which is then shown to the customer and then the approval for final work was taken. The further processes were carried out by the conductors. The conductor was the person who takes the instructions from the factory. The conductor then gets in touch with the artisans and gives them the instructions related to the design, size and time of completion. After the carpet (galicha) was ready on the loom, it was taken off and brought to the factory by the conductor. The checking of the carpet was done if the design were correctly made; the material was right or wrong. If there was any rectification in the process, then the conductor takes the carpet to the weavers and got it improved. The production department further sends it for washing (dhulai) where the carpet was washed in the caustic soda and (tehzab) acid after washing carpet were laid in sun to stretch and dry. Even after the finishing, the capet tends to lose its colour due to tehzab (acid) then the rangcuta /colourcuta men are called to make the improvement. Then the carpet was measured if it was in the accurate size, it goes for the binding. The binding process was done with the help of pichai where all 4 sides were stitching with the hand needle work. The latex gum and jaali was used for the backing. There were two types of backing single backing and double backing. The difference between the two backing was that in single backing – the cloth was used while in double backing- the side binding was done with the support of normal hand sewing process. The finishing of the carpet was done with the machine. After the final inspection, the carpet was handed over to the customer. There were big parties which were mostly out of India for purchase, so they send their agents on their behalf. There were agents who were placing the order and doing the inspection for orders received.

Size and colour combinations were given by the customer. Generally, the carpets were made in different sizes and cost was fixed according to the intricacy of the work. Handmade carpets of size 4feetx6feet in wool cost between Rs. 4,000-10,000 whereas machine made carpets would be

between Rs.2,000-7,000. The other sizes in which carpets were made were 3feetx5feet, circular with diameter of 4feet, 5feet and 6feet.

There is an export association names as A.C.I.M.A which helps the industries by providing information regarding the exhibitions held in India and abroad. Other than special orders exhibitions are the outlet for selling carpets but transportation costs a lot if they go far. Generally, the carpets are sold in and around Bhadohi. The manufacturers do not see a bright future for these carpets.

CONCLUSION

Bhadohi weavers were expert in producing the hand-knotted carpets with the complex design. This hand-made carpet industry of the Bhadohi managed to maintain a place in the international market also. At present in Bhadohi-Mirzapur belt, the industry employs of around 3 lakh looms. The export business earns a positive Net Foreign Exchange which is funding to the growth of Indian economy in general and textile industry. Majorly 80% of the carpets (both handmade and machine made) that are produced are exported. Very less number of carpets (20% of the total production) are sold in domestic market. The machine-made carpets have replaced the traditional simple loom-made carpets. The weavers family who were in this carpet business from generation to generation and had inherited the characteristic style of hand woven carpet are now shifting to machine made carpets. The essence of traditional carpet is losing which needs to be preserved. Machine made carpets can be made anywhere by installing the machines, but the skill of the carpet weavers in Bhadhoi is extraordinary and unique. Bhadohi had a legacy of carpet weavers which needs to be preserved. This can be done only by providing the market for hand woven carpets and training the weavers to compete with the machine-made carpets in quality and design.

REFERENCES

- Arya, S. (2015). *Namda- A Study On Woollen Felted Craft Of Gujarat.* The Maharaja Sayajirao University Of Baroda, Department of Clothing and Textiles, Vadodara.
- Bajwa, R., R. J. (2010, September). *Study of Hand-Knotted Carpet Industry of Rajasansi.* Retrieved from Fibre2Fashion
- Bhar, K. G. (2011). *Handmade Carpets in Wool Perspective.* Indian Institute of Carpet Technology, Bhadohi
- Bhattacharya, B. (1996). *The Indian Carpet Industry Evolving Concerns, Prospects and Strategy* . (L. Sahoo, Ed.) Indian Institute of Foreign Trade Global Bussiness Press.
- Goswami, S. S. (2007). Hand-made Carpets- The Potential for Socio Economic Growth. *The Innovation Journal: The Public Sector Innovation Journal, Vol 12 (2)*.
- Singh K.., E. G. (2008, June). Carpet weaving industry of Bhadohi district, Uttar Pradesh (UP) - An Overview. *Man- Made Textiles in India*.
- Singh, K., E. G. (2008, June). Carpet weaving industry of Bhadohi district, Uttar Pradesh (UP) - An Overview. *Man- Made Textiles in India* .

Internet Search:

- http://www.carpetandrugpedia.com/Hand-knotted_carpets.htm
- https://www.catalinarug.com/blog/hand-made-vs-machine-made-rugs-tell-difference/
- https://www.dorislesliеblau.com/articles/the-difference-betweenhandknotted-andmachine-made-carpets
- http://www.iranreview.org/content/Documents/Persian_Carpet.htm
- http://www.carpetandrugpedia.com/Carpet-History.htm

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WOMEN EMPOWERMENT THROUGH MICRO ENTERPRISES-A STUDY ON KUDUMBASHREE PROGRAMME

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ABSTRACT

Micro-enterprises foster the economic status of women as an effective mean to eradicate poverty. The income generating activities under individual and group initiatives to meet the livelihoods of the poor women are massively promoted under the schemes of Kudumbashree programmes in the state of Kerala. The study decisively evaluates the impact of micro-enterprise units run by the NHGs in poverty eradication process and to compare the economic status of entrepreneurs through enterprise. The study was conducted in Vattavada Grama Panchayat which comes under Devikulam block in Idukki District. Ten Micro Enterprise (ME) units were selected as a sample. Survey method was used to collect the data with the help of self prepared structured interview schedule. The collected data were coded, analysed and presented in frequency tables. The study provides an overall picture of socio- economic background of the members of the women micro-enterprise units and role of micro-enterprises in income generation of the members.

Keywords: Micro enterprise, Kudumbashree, women empowerment, Devikulam block

INTRODUCTION

Women are increasingly seen as an important part of the international development agenda. Empowering women and promoting gender equality are enshrined as global development objectives within the Millennium Development Goals (MDGs). It is widely agreed that poverty and disempowerment go hand-in-hand (KDMS International Conference, 2015)

The micro-enterprises and self-help groups are better means through which their living conditions can be improved. Entrepreneurship through Self-Help Groups (SHG) enables the rural poor to earn their own livelihood besides participating in the process of development. A typical rural women's self-help group is a good example of capacity building for prospective entrepreneurs (Figure 1). It aims to include the enabling members with no educational or industrial or entrepreneurial background to become self dependent and self-reliant by developing and enhancing the decision-making capacity of members and instilling in them the strength and confidence for solving their problems. They provide poor people a forum where they can learn about collectively mobilizing and managing money and matters (Sulaiman, 2014).

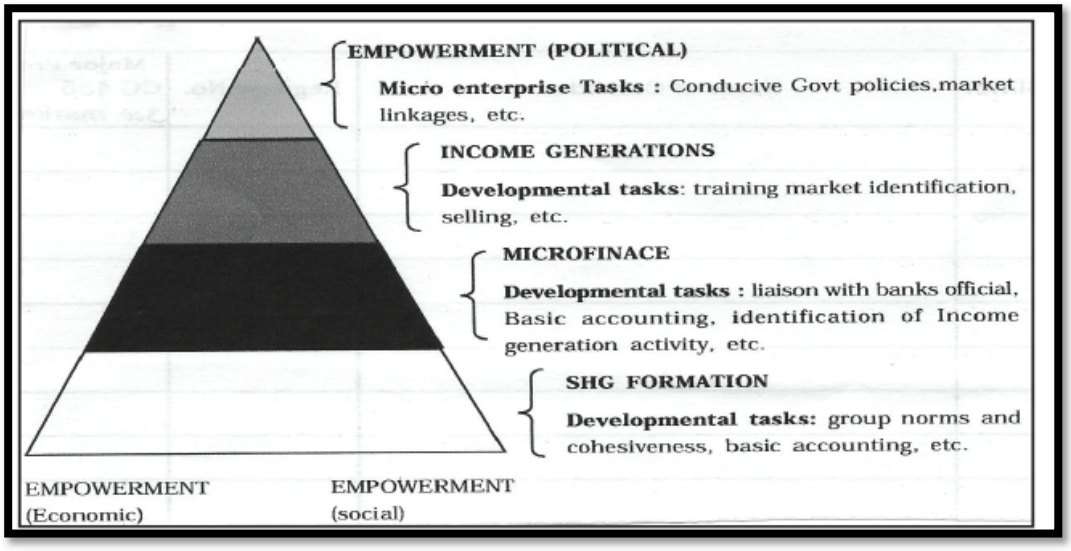

Figure 1: Pyramidal Model of Women Empowerment

Source: Effectiveness of Women Self Help Groups in Micro Enterprise Development in Rajasthan and Tamil Nadu, (2004), Study conducted by Swadeshi Jagaran Foundation, Published by National Commission for Women, New Delhi, p 64.

Anupama (2015) opined that Kudumbashree, the State Poverty Eradication Mission, which is now the largest women empowering project in the country, was launched by the government of Kerala in 1998 for wiping out absolute poverty from the state within a period of ten years through concerted community action under the leadership of LSG formed and empowered by the 73rd and 74th amendments of the Constitution of India. The slogan of the Kudumbashree is "Reaching out to families through women and reaching out to community through families." Built around three critical components; micro-credit, entrepreneurship and empowerment, the Kudumbashree programme has altered lives of economically backward women in the state, changed their perception, built their confidence, boosted their morale, rediscovered them economically, socially and politically. Kudumbashree was conceived as a joint programme of the Government of Kerala and NABARD implemented through Community Development Societies (CDSs) of Poor Women, serving as the community wing of Local Governments. Kudumbashree is formally registered as the "State Poverty Eradication Mission" (SPEM), a society registered under the Travancore Kochi Literary, Scientific and Charitable Societies Act 1955.

The mission statement of Kudumbashree, "To eradicate absolute poverty in ten years through concerted community action under the leadership of Local Governments, by facilitating organisation of poor for combining self help with demand led convergence of available services and resources to tackle the multiple dimensions and manifestation of poverty, holistically"

Evolution of Kudumbashree

This anti-poverty programme had evolved through a long phase of experimentation. The Urban Basic Services for the Poor (UBSP) implemented in Alappuzha Municipality in 1992 focused on a community based and participatory approach to planning and implementing poverty reduction programme. This was when the 9 point index for identifying families at risk of poverty

was first evolved. The promise of the initiative prompted Government to pilot the approach in Malappuram district of Kerala, in November 1994 under the Community Based Nutrition Programme (CBNP implemented with UNICEF support). Almost simultaneously universal coverage of the programme was decided upon for urban areas in December 1994.The formal launch of Kudumbashree was on May 18th 1998. The Kudumbashree network developed across the state in three phases. By March 2002, the entire state was brought under the Kudumbashree network (John, 2009) as shown in figure 2.

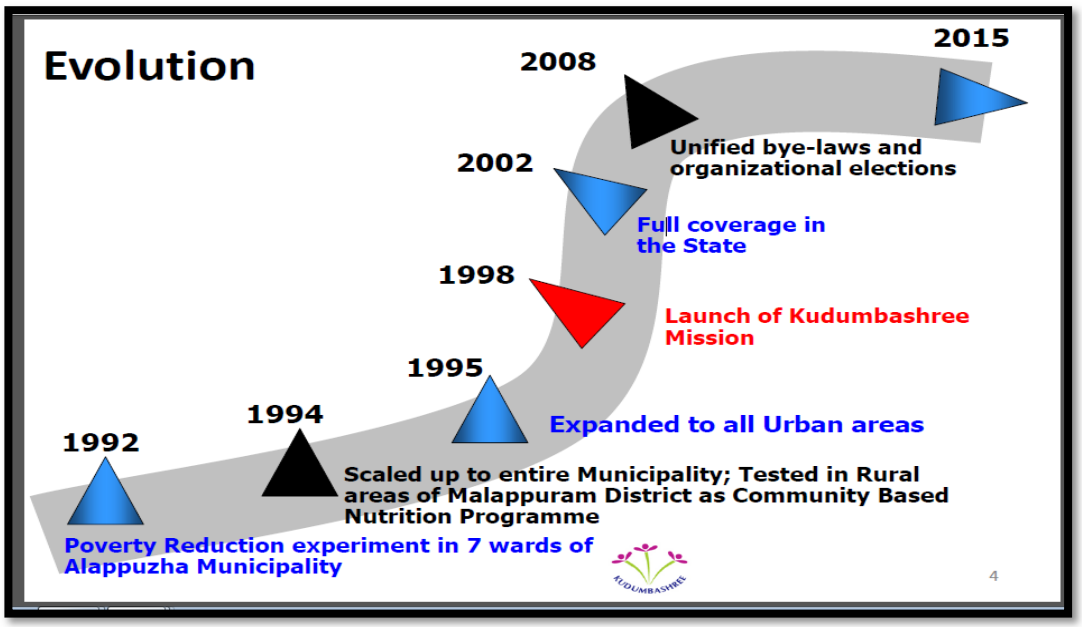

Figure 2: Evolution of Kudumbashree

Source: Kudumbashree website, 2018

Structure of Kudumbashree

Kudumbashree is an autonomous institution of women and a three-tier organization of women. For effective convergence of the programme, a three tier Community Based Organisation (CBO) is in action (Figure 3 and 4.).

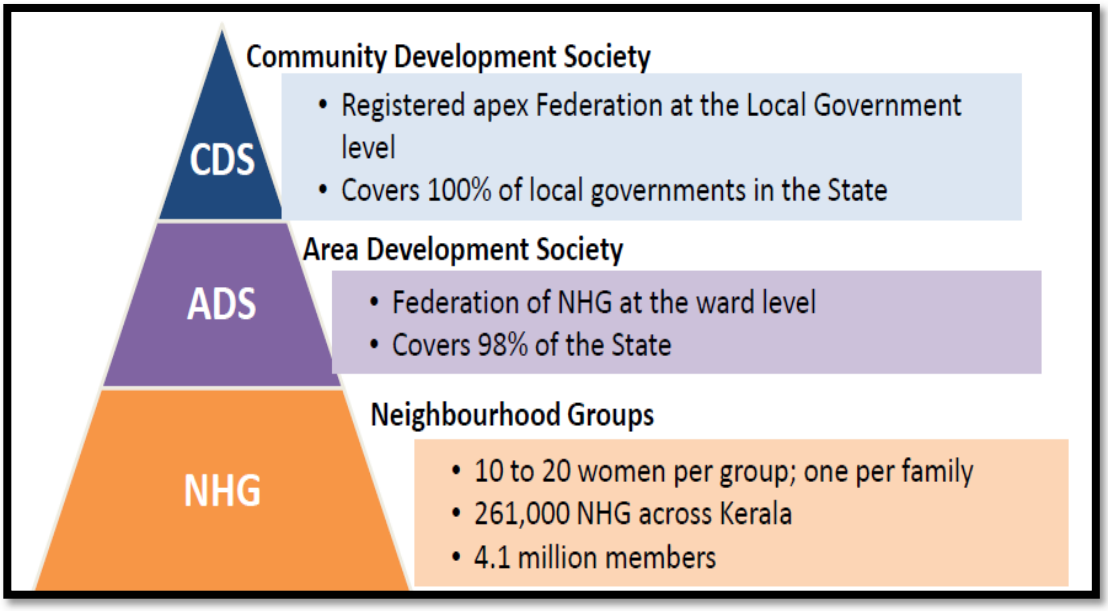

Figure 3 Organizational structure of Kudumbashree

Source: Kudumbashree mission website, 2018

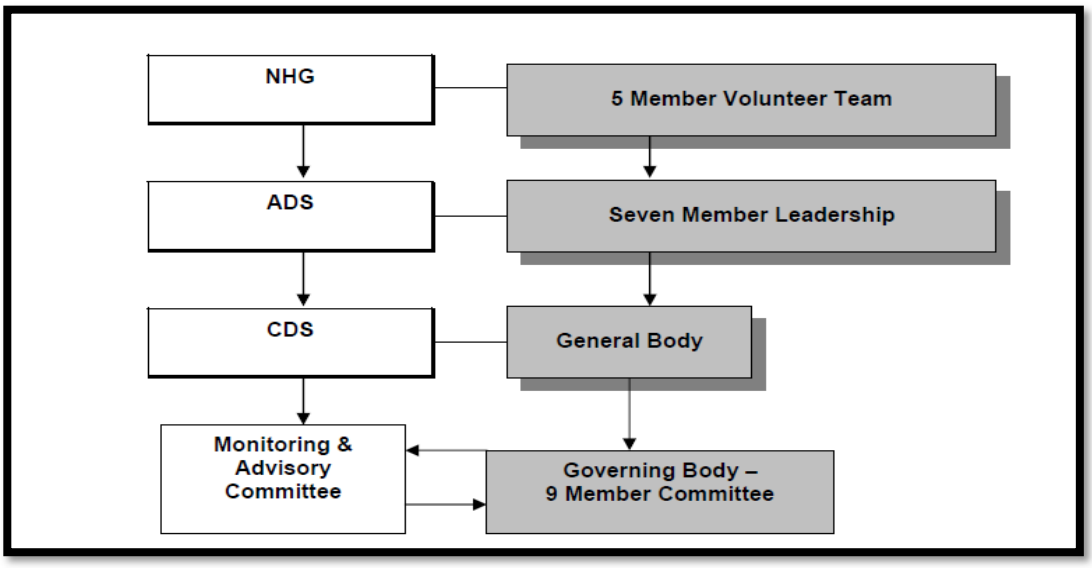

Figure 4

Source: Kudumbashree Mission website, 2018

OBJECTIVES OF THE STUDY

1. To elicit the socio economic status of the respondents
2. To evaluate the effectiveness of Micro enterprises

METHODOLOGY

Vattavada is the Grama Panchayat that comes under the Devikulam block in Idukki District. This was selected for the present study (Fig:5). The address of the Kudumbashree units in Vattavada Panchayat was obtained from the District Mission Office of Kudumbashree, Community Development society and also from the website. There were 120 Neighbourhood Groups (NHG) units functioning in Vattavada Panchayat. An area wise list of Kudumbashree units was obtained from Area Development Society (ADS). From the list, 10 NHG units were selected randomly. The names of the NHGs are **Yamuna, Sree Sakthi, Lotus, Jasmine, Indra, Royal, Kairaly, Angel, Sreedevi and Haritha.** From the selected NHGs 100 women were selected purposively to know the effectiveness of ME activities. On the basis of appropriateness and practicability, the investigator adopted the survey method for this study. Interview schedule was used to collect the information regarding Personal, family, Social, Economic background of the members. The collected data were statistically analyzed and interpreted using appropriate statistical tools. The data were collected from November to December 2018.

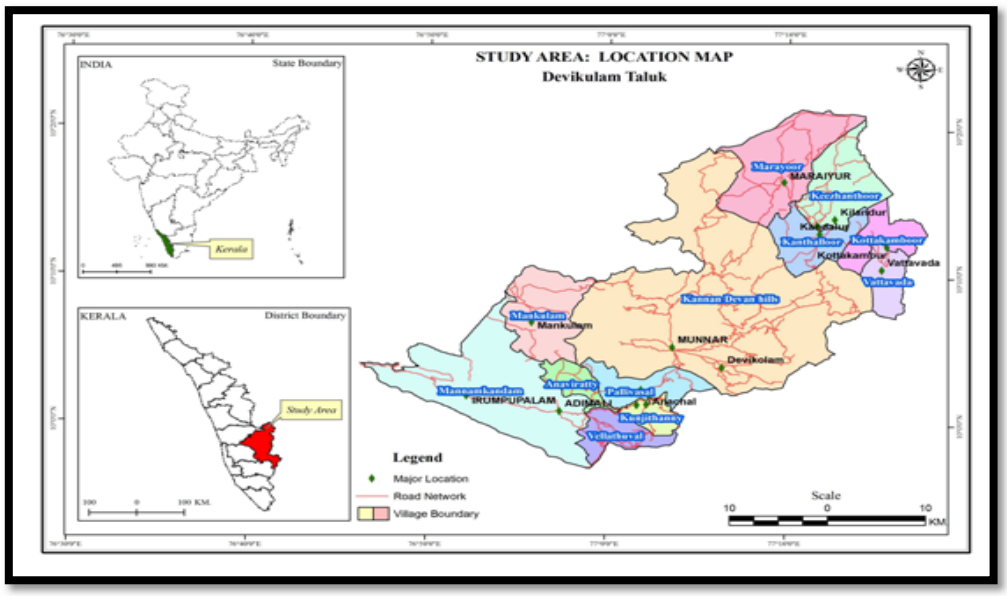

Figure 5: Study area

RESULTS AND DISCUSSION

Table.1: Personal background of the Kudumbashree members

Variables	Number of respondents N=100	Percentage
Age(in years)		
20-30	20	20
30-40	55	55
40-50	15	15
Above 50	10	10
Total	100	100.0
Marital status		
Married	78	78
Unmarried	14	14
Widows	08	08
Total	100	100.0
Educational status		
Up to primary level	46	46
Up to secondary level	40	40
Degree and above	11	11
Professional	03	03
Total	100	100.0

Table 1 shows the personal profile of the respondents. The analysis reveals that 55 per cent of the members belonged to the age group of 30-40. Majority of them i.e. 78 per cent were married. Hundred per cent of the members were literate. A more of them (46 per cent) were with formal education up to primary level than other levels of education.

Table 2: Economic background of the KDMS members

Variables	Number of KDMS members N=100	Percentage
Occupational Status		
House wife	10	10
Self employed	86	86
Professional	03	03
Labourer	01	01
Total	100	100.0
Husband's Occupation		
Unemployed	02	02
Self employed	02	02
Professional	01	01
Government sector	04	04
Labourer	68	68
Farming	17	17
Others	06	06
Total	100.0	100.0
Monthly income (in Rupees)		
5000-7000	08	08
8000-10000	69	69
11000-14000	12	12
Above 14000	11	11
Total	100	100.0
Savings		
Yes	97	97
No	03	03
Total	100	100.0
Assets		
Yes	90	90
No	10	10
Total	100	100.0
Monthly Expenditure (in Rupees)	01	01
5000-7000		
8000-10000	55	55
11000-14000	24	24
Above 14000	20	20
Total	100	100.0

The analysis about type of occupation (table-2) reveals that 86 per cent of them were self employed and occupational status of the husbands of the KDMS members revealed that majority of them (68 per cent) were labourers. It was found that 69 per cent of the respondents were having monthly income between Rs. 8000-10000. More than 90 per cent of the members have savings in various ways like banks, chitty and post office. Fifty five per cent of the respondents opined that their expenditure per month was between Rs.8000-10000.

Table 3: Social background of the Kudumbashree members

Variables	Number of respondents **N=100**	Percentage
Religion		
Hindu	65	65
Muslim	04	04
Christian	31	31
Total	100	100.0
Caste		
General	03	03
OBC	67	67
SC/ST	30	30
Total	100	100.0

The table-3- reveals that the majority, i.e. 65 per cent of them were Hindus. Caste wise breakup reveals that 67 per cent of the KDMS members belonged to Other Backward Caste (OBC).

Table 4: Family background of the KDMS Members

Variables	Number of KDMS Members **N=100**	**Percentage**
Type of family		
Joint	14	14
Nuclear	80	80
Extended family	06	06
Total	100	100.0
Family size		
1-2	02	02
3-4	80	80
4-5	08	08
5-6	10	10
Total	100	100.0

Table 4 reveals that a wide majority i.e. 80 per cent of the members belonged to the nuclear families. Nearly 80 per cent of the members were from small family with three to four members.

Micro Enterprise (ME) activities undertaken by Kudumbashree Units

Under KDMS programme, micro-enterprise development is being started with low capital, low risk and low profit at the initial stage. Table 5 indicates major ME activities undertaken by Kudumbashree units.

Table 5: Micro Enterprise (ME) activities

ME activities	Number= 100 Percentage
Agriculture and Allied Sector	
Horticulture	62
Poultry	51
Dairy	87
Floriculture	40
Production / Manufacturing Sector	
Homemade chocolate	89
Detergent powder and soap making	67
Candle making	48
Fruit jam making	65
Pickle making	74
Nutri mix powder making	69
Readymade Idli/Dosa flour making	21
Cake and bread making	48
Service Sector	
Internet café	19
Hotel & tea shop	43
Petty shop	76
Laundry unit	14
Café Kiosk	59
Tailoring	34

There were multiple responses. In agriculture and allied sector majority (87 %) of the respondents reported that they were benefitted under dairy products. In production sector majority of the respondents reported that they were benefitted by Chocolate Making (89 %), Pickle making (74 %), Nutri mix powder making (69 %), and readymade idly and dosa batter (21%). In service sector 76 per cent of the respondents were benefitted by starting petty shop and 43 per cent Hotels and Tiffin centre and 19 per cent of the members were benefited by internet café. Thus, the analysis revealed that all the members were actively engaged in their ME activities.


AMRUTHAM
FOOD SUPPLEMENT
അമൃതം
പൂരക പോഷകാഹാരം


Kudumbasree
BEST FOODS

Figure 6: Snap shots on ME activities

IMPACT OF ME ACTIVITIES

Kudumbashree views micro enterprises development as an opportunity for providing gainful employment to the people below poverty line and thereby improving their income and living standard. Group farming units, fruit processing units, soap powder units, grocery shops are some of the examples of micro enterprises that are undertaken by poor women under Kudumbashree mission. Micro enterprise is any income generating activity owned, operated and managed by a group, consists at least five and not more than fifteen women members of the Kudumbashree NHGs with an investment ranging from Rs. 5000 to Rs. 5 lakh and should have a potential to generate at least Rs.1500 per member per month by way of wage or profit or both together. Micro enterprise development is an emerging process which starts with low capital, low risk and low profit at the initial stage. In an advance stage, it may even reach medium capital, medium risk and medium profit with appropriate technology, emerging technology or even with low technology.

CONCLUSION

KDMS, as a unique programme, has edge over many SHG programmes in other Indian states. At first, the membership of NHG under KDMS is restricted to women from poor families while it is open to all to participate in SHG. Micro credit and Micro enterprise is the only tool for poverty reduction among members of SHGs as it remains one of various effective tools in KDMS

programme. Economic participation of women leads to their better position in the family. Kudumbashree has proved without any doubt that women empowerment is the best strategy for poverty eradication. The study concluded that after joining Kudumbahsree, the members were empowered socially, economically and politically.

REFERENCES

- Anupama. R. (2000). Role of Kudumbashree in Financial Inclusion, Master of Commerce Project Report Submitted to the University of Calicut, pp23-24.
- Government of Kerala (2018), Kudumbashree Mission report, Thiruvananthapuram
- John.J.(2009). A Study on Kudumbashree Project a Poverty Eradication Programme in Kerala performance, Impact And Lessons For Other States, Planning Commission of India, Kerala Development Society, New Delhi, pp: 16-17
- National Commission for Women. (2004). Effectiveness of Women Self Help Groups in Micro Enterprise Development in Rajasthan and Tamil Nadu, New Delhi, p 64
- Report on Kudumbashree International Conference Poverty Eradication, Women's Empowerment And Local Self-Government (2015), Kudumbashree Mission, Thiruvananthapuram, P1.
- Sulaiman. E.K. (2014). Women Empowerment Through Micro-Enterprises: An Empirical Analysis of Kudumbashree Units in Kerala, *Journal of Rural and Industrial Development,* (2)1 , pp:1-2.
- www.kudumbashree.com

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SON'S PREFERENCE AND DAUGHTERS' UNDESIRABILITY: PERCEPTIONS OF SCHOOL GOING GIRLS

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ABSTRACT

The declining female sex ratio affects the country's demographics, reflects the underlying socio, economic and cultural patterns of a society and also highlights the increasing gender based discrimination. This paper seeks to understand the factors related with preference for son and undesirability for daughter and the associated reasons. Logistic regression analysis by enter method was used to analyze the perceptions of 335 adolescent girls studying in classes XI and XII of government schools and enrolled under "Ladli" scheme of Delhi. Out of the fourteen independent variables studied for correlation, family income and native place were significantly associated with son preference at5% level of significance (Nagelkerke $R^2$was 0.121). And the sex of last-born sibling had the strongest correlation with daughter's undesirability at 5% level of significance (Nagelkerke$R^2$was 0.126). The paper asserts the urgent need to facilitate change in mindsets of the people against female child as liability and male child as an asset. Mass media, pro-girl child policies and programmes and schemes with financial incentives for bringing up girl children and educating them will contribute to address the challenges of gender inequality.

Keywords: Son Preference, gender bias, daughter undesirability, sex ratio, patriarchy, Ladli Scheme

INTRODUCTION

Indian society is largely patriarchal and people generally prefer a male child over a female child as they benefit more from having sons than daughters. The family size and sex composition of its members affect the country's demographics. The number of surviving girl children is lesser than boys as reported in the Census data over the past several decades now. It indicates that the sex-ratio is declining constantly. Among the ten most populous countries of the world, India had recorded the second worst sex ratio of 940 in 2011 reflecting the overt desire for sons over daughters among people (Census 2011).

Extant literature on the subject has identified the 'preference for sons' as the reason for the gender bias against girls in South Asian countries, particularly India. The son preference, endured for centuries in India, has evolved from a variety of economic, social, cultural and religious factors and is extensively documented in various research studies and government reports. It is widely believed that sons will provide economic support to the parents in their old age, continue the family lineage, add status to the family and promise social and economic mobility. Hindus, traditionally, consider it essential that a male child lights the parent's funeral pyre and performs the rituals at every death anniversary of the ancestors thereafter (Anand and Seetharaman, 1998).

In contrast, a daughter is perceived to be a drain for household resources and is associated with a 'double loss' as they leave the natal family after marriage and dowry related payments, which are a heavy burden for their family (Sekhar& Hatti, 2010). She is also seen as a social liability since she needs to be protected from sexual exploitation. The prevalent community norm of considering the girl as a temporary member in the natal home and an outsider in husband's home, bestows a secondary status to them (Singhal et. al., 2016). Parents also consider her as "other's property/ asset" and raise her with the ideology of 'watering another man's garden'. The investment is considered huge in both social and economic terms while the returns are dim or nil.

The increasing gender gap seen across the socio-economic and cultural contours in India has raised difficult questions about the welfare of the 'daughters' of India. A news article in the Hindustan Times reported that a newborn baby girl was bundled up in a polythene bag for almost six hours and taken to a nearby hospital to be sold off by the father (Dogra, 2018). Such news reflects that the situation, instead of improving, is getting worse and continues to be significantly adverse towards girl children, which is a matter of major concern. The shortage of women will not only lead to serious demographic imbalances but will also have adverse social consequences. Various problems foreseen include non-availability of brides, rise in violence against women, lack of female workforce, rape, trafficking and forced polyandry. The economic theory would predict that if there is a shortage of girls, then their value would increase socially as well as economically. However, this doesn't hold true for Indian scenario. In fact, it has led to increase in the number and intensity of crimes against women as per NCRB data, 2016.

REVIEW OF LITERATURE

The gender-based discrimination in India manifested through the constantly declining sex ratios remains the most pervasive and persistent form of inequality that leads to multiple deprivations faced by girls and women and acts as a hurdle in the path of development. The research studies conducted ,both in national and international contexts, have suggested presence of 'sons preference' as a universal phenomenon that is practiced across countries, urban and rural regions and social groups and has also been identified as the major reason for the gender imbalance. Guilmoto and Duthé (2013) highlighted that in Azerbaijan and Armenia, in Eastern Europe, and even among the Chinese, Korean and Indian populations groups living in the United States, couples are making sure at least one of their children is a son. The reproductive behavior of Vietnamese women also showed strong desire for having at least one boy to maintain their family ancestral line (Haughton and Haughton, 1995).

In India, the undesirability of daughters has resulted in the number of girls dropping down to 'emergency proportions' as per UN study (Manocha, 2014). Until the age of five the

mortality rate of girls is 75 per cent higher than that of boys (Shrinivasan, 2012). Further, the shift of gender inequality from 'mortality inequality' to 'natality inequality' (Sen, 2003) has resulted in

India being the world's most dangerous place for girls, as revealed by United Nations. Such circumstances are shaped by various social, cultural, religious and economic factors that values male children and discriminate against female children. Due to the marginal dip in the sex ratios from 2001 to 2011 specifically in few states of India, Haryana, Punjab and Himachal Pradesh are called as 'Bermuda triangle', a triangle where girls vanish (Dave et al., 2009). As per the economic survey (2017-18), 63 million women were missing in India and more than two million women go missing across age groups every year owing to gender based discrimination (MoF, 2018). If the current trend of declining sex ratios continues, the total number of missing females worldwide is projected to grow from 126 million in 2010 to a maximum of 150 million in 2035 (Bongaarts and Guilmoto, 2015). This will result in availability of fewer women in the marriageable age cohorts and lead to shortage of brides and marriage squeeze. It is speculated that the 'marriage gap' in India will be 7% by 2025 and the cumulative number of additional men remaining single during 2020-80 will be closer to 40 million (Guilmoto, 2012). The resultant male surplus in the society, unable to find a partner for marriage may pose threat to women's security globally and impact the stability of the society. Such a scenario will lead to an aggressive and a generally unhappy society as pointed by various studies.

Given that India is expected to become the world's most populous country by 2025 (World Population Prospects, 2010), examining the determinants that reinforce the preference for sons and lower the status of girls in Indian society is important to provide informed recommendations for government policy and programmes and plan strategies to reduce gender imbalances and restore proper gender ratio. Hence, a study was planned.

OBJECTIVE

To study the perceptions of school going girls regarding son's preference and daughters' undesirability

METHODOLOGY

The study was carried out at nine Government Girls Senior Secondary (only girls) schools and nine Rajkiya Pratibha Vikas (co-ed) schools run by Directorate of Education in Delhi. The sample comprised of adolescent girls studying in Classes XI and XII and enrolled under Ladli scheme as beneficiaries. For the sample, a total of 360 girls (20 girls from each of the selected 18 government schools) were selected through systematic random sampling. After taking due permission from the nodal agency responsible for implementing the Ladli scheme i.e. Department of Women and Child Development (DWCD), Government of NCT of Delhi and from Directorate of Education and the school authorities, they were interviewed in the school premises after taking informed consent of the girls and their parents in their language of preference. Using an in- depth interview schedule, the information was collected in order to understand the socio-cultural factors that reinforce the preference for sons and lower the status of girls in the society. The ethical approval was obtained from the Institutional Ethics Committee. Due to absenteeism of few respondent girls during the period of data collection, the study was conducted on 335 schoolgirls.

Statistical Analysis: The analysis was done by logistic regression analysis with enter method to find out independent association of individual factors after controlling other factors using SPSS version 16.0 software. The dependent variable selected was son preference and quantified to be 1, if the beneficiary girl thought that people preferred male child and 0, otherwise. The other dependent variable selected was daughter's undesirability and quantified to be 1, if the beneficiary girl perceived that people practiced sex selective abortions to avoid having a daughter and 0, otherwise. The fourteen independent variables considered for the analysis were religion, education of parents (mother & father), occupation of parents, type of family, family size, socio- economic status (SES), caste, native place, family income, type of school, number of living male siblings and sex of last-born sibling.

FINDINGS & DISCUSSION

In logistic regression analysis for son preference, out of the fourteen classified independent variables, the strongest determinants found to be significantly associated at 5% level of significance were 'family income' and the 'native place' from where the family of beneficiary girls hailed (Table 1). Nagelkerke R Square for fitted model was 0.121. Majority of the respondent beneficiary girls came from migrant families settled in Delhi and originally belonged to the northern region of the country, that is, from the states of Haryana, Punjab, Uttar Pradesh and Madhya Pradesh. The socio-cultural norms of this region have a demonstrated history of skewed sex ratios. Most of the people consider a family to be complete only after the desired number of sons is born in the family, thereby putting the status of a daughter at a lower pedestal as compared with a son. Basu and Jong (2010) also highlighted that family income and geographic location of families significantly affected son, targeting the fertility behavior.

Table 1: Logistic Regression of Son Preference by Enter Method

Variables	B	S.E.	Wald	df	Sig.	Exp(B)
Caste	-.331	.269	1.508	1	.219	0.718
Religion	-.006	.510	.000	1	.991	.994
Type of family	-.349	.576	.366	1	.545	.706
Family size	.261	.462	.319	1	.572	1.298
Education of father	.264	.344	.586	1	.444	1.302
Education of mother	-.377	.314	1.439	1	.230	.686
Occupation of father	.114	.327	.123	1	.726	1.121
Occupation of mother	-.828	.855	.937	1	.333	.437
Family income	**.571**	**.297**	**3.688**	**1**	**.055**	**1.770**
Native place	**.511**	**.244**	**4.388**	**1**	**.036**	**1.666**
Number of living male siblings	.328	.329	.992	1	.319	1.388
Sex of last-born sibling	-.493	.306	2.605	1	.107	.611
SES	-.331	.652	.258	1	.612	.718

When enquired about their perceptions and associated reasons with son preference**,** 87.46% of the girls expressed that financial security and support in old age as the most common reasons behind overt desire for sons in Indian society (Table 2). They stated that sons are considered the 'breadwinners of the family'.

Table 2: Reasons associated with son preference as perceived by schoolgirls

*Reasons behind son preference	Number	Percentage
Financial security & Old age support	293	87.46
Family lineage	287	85.67
Handling of family property/ business	232	69.25
Social status	204	60.90
Funeral rights	51	15.22
**Multiple responses*		

The second leading reason was 'family lineage' i.e. propagation of family name (85.67%). 'Handling of family business' or 'looking after bequeathed family properties' emerged out to be another strong reason behind preferring a son over daughters. Majority (60%) of the respondent girls pointed out that the birth of a son is perceived as an opportunity for upward mobility while the birth of a daughter is believed to result in downward economic mobility and decreased social status of the family. Hindus traditionally consider it essential to have a male child to light the parent's funeral pyre as quoted by Ramaiahet. al. (2011). Also anecdotal evidence on Hinduism suggests that there is a religious sanction behind son preference, which also shows up in the study. A very high percentage, i.e. 89% of the girls mentioned about the presence of strong son preference in their families and community. Some even called it 'son mania'. They further shared the following verbatim that they hear from their family and acquaintances as the major reasons behind son preference.

**'Arthi ko kandha dene ke liye tow ladka chahiye hi hota hai'* (For shouldering the bier and perform funeral rites, a son is required)

**'Mundan' to ladka hi karwayega, ladki thodi na baal katayegi apne…* (A boy will only shave his head at the time of funeral.. a girl can't cut her hair)

**'Betiyan to apne gha rchali jati hai… budhape ka sahara to ladka hi hota hai…'* (Girls go to their marital homes after marriage. A boy is the only support in old age)

In logistic regression analysis for daughter's undesirability, among the fourteen classified independent variables tested for correlation, the sex of the last-born sibling of the interviewed girl was found to be significantly associated at 5% level of significance (table 3). Nagelkerke R Square for fitted model was 0.126.

Table 3: Logistic Regression of daughters' undesirability by enter method

Variables	B	S.E.	Wald	df	Sig.	Exp (B)
Caste/ Social Category	.137	.224	.376	1	.540	1.147
Religion	.124	.383	.105	1	.746	1.132
Type of Family	.796	.539	2.175	1	.140	2.216
Size of Family	-.420	.458	.840	1	.359	.657
Father's Education	.474	.318	2.220	1	.136	1.606
Mother's Education	.187	.298	.392	1	.531	1.205
Father's Occupation	.524	.297	3.107	1	.078	1.688
Mother's Occupation	.489	.491	.991	1	.320	1.630
Monthly Family Income	-.058	.311	.035	1	.852	.944
Native place	-.138	.236	.344	1	.557	.871
Number of living male siblings	.532	.339	2.461	1	.117	1.702
Sex of last born sibling	**-.720**	**.316**	**5.191**	**1**	**.023**	**.487**
SES	-.907	.621	2.137	1	.144	.404

The findings highlight that the undesirability of having a daughter can be stronger because of existing number of daughters in the family or the higher parity daughters are most 'unwanted'. Instead of sex selection, parents may chose to keep having children and progress to higher parities until they get desired number of sons. This is called son 'meta' preference (MoF, 2018). Such meta-preference gives rise to 'unwanted' girls- girls whose parents wanted to have a boy but had a girl instead. As per the economy survey (2017-18), the number of 'unwanted' girls is estimated to ne 21 million for the 0-25 age group in the population currently. Researchers suggest that son preference is further leading to not just undesirability but also an aversion for daughters. The findings further revealed more concentration of boys at higher parities among the respondent families. Dasgupta (2005) also observed that strong preference for male child was affected by sex composition of children in the family. This clearly asserts gender bias towards having a son, irrespective of the number of daughters in the family and becomes more intense with no son at smaller parities in the family composition.

On further enquiry regarding the reasons associated with daughter's undesirability, the leading reason that surfaced was financial insecurity and lack of support in old age from daughters after marriage as mentioned by 87% of the respondents (table 4).

Table 4: Reasons associated with daughters' undesirability as perceived by beneficiary girls

**Reasons behind daughters' undesirability*	*Number*	*Percentage*
Financial insecurity and lack of support in old age after daughter's marriage	293	87.46
Dowry	287	85.67
Continuity of family lineage	232	69.25
Social insecurity and crime against women: fear of rape/ molestation, mobility, etc	204	60.89
Girl is considered a liability	56	16.71
Fear of family & social status: love affair, out of caste marriage, etc	51	15.22
Funeral rights	21	6.27
**Multiple responses*		

Dowry emerged out as the second strongest determinant behind such behavior of daughter non- preference due to perceived economic burden at the time of daughter's marriage (86%). The exogamous marriage system in India favors strong patriarchal values and lowers female autonomy due to which sons are considered as assets while daughters as liabilities and a drain on household resources. Investment in them is huge, both socially and economically, while the returns are considered to be nil or dim. Srivastava et al. (2005) also highlighted that parents perceived that bringing up girls is a costly affair and wasted investment. The concern regarding continuity of family lineage emerged out to be another strong reason behind such practice (69%). 61% of the respondent girls shared that with the rising crime against women, keeping the chastity of a girl intact has become difficult and thus has led to increased social insecurity. They alleged that the fear of girls getting molested or raped is critical factor contributing to daughters' non-preference by the parents. Girl being considered a liability, fear of loss of social status due to love affair or inter caste marriage, problems related to upbringing of girls, their safety and mobility, customs related to performing the funeral rituals etc. were some other reasons shared by them. Each of the above reasons mentioned by them asserts that a son is often trumped over having a daughter and points towards the heightened prejudice against girl child in our society.

The findings assert that the preference for male child is influenced by various socio-economic, religious and cultural factors. Although beneficiaries shared their perspectives but the consequences of such a prevalent practice of son preference and daughter undesirability are still being unfolded and are determinants to the social fabric of our society. Understanding these trends is important in order to provide informed recommendations for government policy and programmes working to discourage practices that lower the status of girls and pose a threat to their living. Further, research studies focusing on the role of class, caste, religion and other socio-

economic factors can give insight to understand the strategies adopted by couples in shaping the size and sex composition of the families that result in skewed sex ratios of the county.

CONCLUSION

The study asserts that gender preferences for children observed at the family level are embedded in cultural and religious traditions and community norms, shaping individual attitudes and behavior. A son is preferred because of the economic, religious and social utility, which is mainly related with financial earning, support to the family, inheritance of family property and handling of family land holdings, social status and to perform various funeral rituals. On the other hand, a girl is considered a liability due to reasons owing to financial & social security, imposing of costs on family due to dowry payments, etc. The strong desire to prefer sons is also translated as a desire to not have daughters.

While we wait for the trends of sex ratios across the country to unfold in the upcoming census of 2021, the study findings from nine districts of Delhi points towards a strong son preference in respondents' families and communities and a continuing trend of daughter aversion. And further draw attention towards the changing gender preference that might continue to increase the uneven gender ratio as families resort to various sex-selective practices, ranging from sex selective abortions to subtler forms such as differential stopping behavior.This suggests that financial incentives or support for girl children may play a role in galvanizing the process of change in educating girl children and reducing gender imbalances. This will raise the value of girl children and thereby make it more promotive for parents to have girls. Further, it is also important for the state and all stakeholders to work towards increase opportunities available for women and have forward linkages with the market for employment.

Researchers recommend facilitating change in mindsets of the people against female child as liability and male child as an asset by all means, government legislations like inheritance laws, stricter implementation of PC & PNDT Act and incentives for bringing up girl children. The perceptions as well as societal practices related to such gender based discrimination need to be changed through sensitization, advocacy and by making use of behavior change communication. The stories of people representing a cultural beacon of gender roles and equity need to be encouraged and shared to see better situation in future.

REFERENCES

- Anand, S. & Seetharaman, P. (1998). *Attitude of Families Residing in the States of Delhi and Punjab towards Female Foeticide and Infanticide*. Unpublished Ph.D. thesis of the Department of Home Science. University of Delhi.
- Basu D., & De Jong, R. (2010). Son targeting fertility behavior: Some consequences and determinants. *Demography, 47*(2), 521-536.

- Bongaarts, J., & Guilmoto, C.Z. (2015). How many more missing women? Excess female mortality and prenatal sex selection, 1970-2050. *Population and Development Review, 41*(2), 241-269.
- Census of India. (2011). Retrieved from http://censusindia.gov.in/
- Dasgupta, M. (2005). Explaining Asia's Missing Women: A New Look at the Data. *Population and Development Review, 31*(3): 529-535.
- Dave, A., Dave, S., Preetha, G.S. & Pant, B. (2009). Why me? A missing girl. *Indian journal of public health*, *53*(4), 259.
- Dogra, S. (2018, May 18). Mohali: Baby found in polythene bag a fighter, needs warmth, say doctors. *Hindustan Times*. Retrieved from http://hindustantimes. come/Punjab
- Guilmoto, C. Z., & Duthe, G. (2013). Masculinization of births in Eastern Europe. *Population & Societies*, (506), 1.
- Guilmoto, C.Z. (2012). Skewed sex ratio at birth and future marriage squeeze in China and India, 2005-2100. *Demography, 49*(1), 77-100
- Haughton, J., & Haughton, D. (1995). Son Preference in Vietnam. *Studies in Family Planning, 26*(6), 325-337. doi:10.2307/2138098
- Manocha, V. (2014, July 23). India's Child Sex Ratio has reached 'Emergency Proportions': UN Study. *Down To Earth*. Retrieved from https://www. downtoearth.org.in/news/indias-child-sex-ratio-has-reached-emergency-proportions-un-study-45424
- MoF (2018). Chapter 7: Gender and Son- Meta Prefernece: Is Deveopment Itself an Antidote? *Economic Survey 2017- 2018*, Economic Division, Department of Economic Affairs, Ministry of Fincnace, Government of India, New Delhi.
- Ramaiah, G. J., Chandrasekarayya, T., & Murthy, P.V. (2011). Declining child sex ratio in India: Trends, Issues and Concerns. *Asia-Pacific Journal of Social Sciences, 3*(1), 183-198.
- Sen, A. (2003). Missing women-revisited: reduction in female mortality has been counterbalanced by sex selective abortions. *BMJ: British Medical Journal*, *327*(7427), 1297.
- Sekher, T.V. and NeelambarHatti. (2010). *Unwanted Daughters: Gender Discrimination in Modern India*. PremRawat, for Rawat Publications, India
- Shrinivasan, R. (2012, February 1). India deadliest place for girl child. *The Times of India*. Retrieved from https://timesofindia.indiatimes.com
- Singhal, A., Anand, S. and Mehta, D. (2016). What Are Their Dreams? Exploring Educational Aspirations Of Young Girls In Rural Haryana. *International Journal of Applied Home Science, 3*(9 & 10): 284-287.
- Srivastava A. Das Gupta P., &Rai, S. (2005). Attitude towards Girl Child and Declining Sex Ratio in Bhopal. *Bhopal, Centre for Women's Studies*, 42.
- Tiwary, D. (2017, December 1). NCRB data, 2016: Cruelty by husband, sexual assault, top crimes against women. *The Indian Express*. Retrieved from https:// indinaexpress.com/articleUnited Nations Population Division, *World Population Prospects: The 2010 Revision, Highlights and Advance Tables,* New York: United Nations Population Division, 2011, <http://esa.un.org/wpp/ Documentation/pdf/WPP2010_Highlights.pdf>, accessed Oct. 3, 2016.

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ATTITUDE OF WOMEN IN THE THIRD AGE TOWARDS THEIR AGE

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ABSTRACT

Ageing is a collective term for all those progressive deteriorating changes that occur in life with an increase in age. The age at the retirement is now more easily understood as Third Age. This period is characterized as the period of adjustment to changes in physical, environmental, social, financial conditions and time and activity pattern. Changes in human relations and attitude towards one's age make difference in the readiness to adjust to the needed changes in various aspects of life. A research was planned to study the attitude of women in the third age .The present descriptive research was conducted in Vadodara city on 180 women in the age group of 60 years and above. They were contacted through snowball technique. The data were gathered through a questionnaire containing a Likert type Attitude scale which was subjected to establishment of validity and reliability. Half of the women were 60- 70 years old (Young-old) and half were above 70 years (Old-Old). From each group 30 women were living alone, 30 with their husband and 30 with the family. More than half of the total sample was graduate and post graduate and was gainfully employed before retirement. About 13 per cent were employed after retirement mainly to keep busy and have some financial gains. Time spent on employment and household work was less among old-old women but more time was spent by them on personal care, sleep, leisure and religious activities as compared to Young-old women. A little more than half of the respondents had negative attitude towards their age and more than one third had positive attitude. Positivity of attitude towards the third age increased with the age (r= 0.72) and education (r= 0.54). A difference in attitude was found between employed and not employed women (t= 3.43). The study revealed a need for organizing some counseling sessions and activity programmes with those women who have negative attitude regarding their age so as to boost up their self esteem and a feeling of self worth.

Keywords: third age, attitude, Time use

INTRODUCTION

People worldwide are living longer. By 2050, the world's population aged 60 years and older is expected to total 2 billion, up from 900 million in 2015. Today, 125 million people are aged 80 years or older (WHO, 2018).Ageing is defined as, "A collective term for all those progressive deteriorating changes that occur in life with an increase in age "(Geetha, 2003). It is characterized by a period of reduced work at the place of gainful employment as well as the household level. Generally, the age at the retirement is now more easily understood as Third Age.The Third Age begins at retirement, which a nation prescribes in accordance with its pension system (Laslett's, 1987, 1991). According to Peter Laslett (1915-2001), a British historian, the Third Age emerged in

developed countries with both, population aging and excellent economic conditions. In developing countries people may not have the Third Age because of short longevity due to underdeveloped medical facilities and insufficient pension due to low GNI.

Four Ages as described by Laslett's (1987, 1991) theory of the Third Age:

- First age, a first era of one's life, refers to a period from the birth through learning term until right before the first employment.
- The second age refers to the second era of one's life during employment until retirement, including child –rearing.
- The third age is generally an era after retirement with health, vigour and positive attitude to have the Third age, except for particular cases. The Third Age is a culmination of life and period for life fulfillment.
- Fourth Age: The older one grows, the more likely s/he will be to lose one's mobility and be under the care of family or others due to age-related diseases. Even though one luckily escapes these diseases and lives long and healthy i.e. have a longer Third Age, one would eventually grow senile and pass away. The final dependence, decrepitude and death are the characteristics of the Fourth Age.

The cultural markers for identifying old age vary from society to society. Old age is usually is considered as starting at 60 to 70 years in most of the Western Countries (Bali, 2003). In India much significance is attached to completion of 60 years of age, a ceremony called as "Shashti Purti" is performed, generally for men.

This period is further characterized as the period of adjustment to physical changes, changes in environmental conditions, changes in human relations and changes in income (Nickell, Rice and Tucker, 1976). Adjustments are required in the use of time, housing conditions and living arrangements. There is, however, a great diversity among the elderly in their personality, life styles, resources, health condition and attitude. A few elderlies would go through this period without facing much of the changes and associated managerial decisions in relation to providing appropriate resources, facilities, and the use of their available time. But there are many who have to make many necessary adjustments under the changed circumstances (Gross, Crandall and Knoll, 1980). Their attitude towards their age makes a difference in the readiness to adjust to the needed changes in various aspects of life. Those who have negative attitude can be helped to improve their outlook towards life and theirself-esteem can be boosted up. The educational institutions have an important role to play in this regard. There is a need to identify the attitude towards the third age held by people who are already in the old age, so that, those who are found to be having poor attitude can be given counseling sessions for improvement in attitude. This, in turn, would help them to adjustment in various ways to the changed pattern of life.

A research was planned to study the attitude of women in the third age so that a data base can be generated and a counseling sessions and other activities can be conducted to help them to use their time more effectively, have a feeling of self-worth and boost their moral.

OBJECTIVES OF THE STUDY

1. To study background information of the women in the third age
2. To study their attitude towards their third age

METHODOLOGY

The present descriptive research was conducted in Vadodara city on 180 women, contacted through snowball technique, in the age group of 60 years and above. According to Laslett's (1987, 1991), sociologically, the elderly is the Young-old (those aged 65 to 74 years) or the old-old (those aged 75 years or older). But in the present study those who were in age group of 60-70 were considered as young-old and those above 71 years were considered as old-old.The data were gathered through a questionnaire which was subjected to establishment of content validity and reliability and was administered in May- June of 2018. The tool contained questions to elicit background information and a Likert - type attitude scale to assess their attitude towards the third age.

MAJOR FINDINGS

Background Information:

Among the total sample of 180 women in the third age, a one half of the sample was in the age group of 60-70 and other half was 71 years and above (Table1). Two women of 78 years were the eldest among all.

Table: 1: Distribution of Respondents by category of age

Sr. No	Category	Age range(years)	Respondents (n=180)	
			f	%
1	Young-old	60-70	90	50
2	Old-old	71 and above	90	50

The living arrangement of the respondents as shown in table-2 revealed that in each age group 30 women were living alone, 30 with their husband only and 30 were living with other family members also.

Table:2: Distribution of respondents as per their living arrangement

Sr. No	Living Arrangement	Y-O (n=90)		O-O (n=90)		Total (n=180)	
		f	%	*f*	%	*f*	%
1	Living alone	30	16.66	30	16.66	60	33.33
2.	Living with husband	30	16.66	30	16.66	60	33.33
3	Living with family	30	16.66	30	16.66	60	33.33
	Total	90	49.99(50)	90	49.99(50)	180	99.99(100)

Table 3 reveals the educational level of the respondents. Very few respondents were illiterate or had education till primary level. About one fifthof the women studied till high school andmore than one third were graduates. More than one fifth of the women had education till post-graduation. Probably due to good educational level, 55 percent of the women from the total sample were gainfully employed before reaching to the third age (table 4).

Table: 3: Distribution of respondents by educational level

Sr. No	Educational Level	Respondents (n= 180)	
		f	%
1	Illiterate	5	2.7
2	Primary	12	6.7
3	Metric	28	15.6
4	High school	32	17.8
5	Graduate	65	36.1
6	Post Graduate	38	21.1

Regarding employment status, among the young-old group, a wide majority of the women were gainfully employed before retirement, i.e. reaching to the third age (table-4). Among old- old group about 39 per cent were employed whereas 61 per cent were not employed.

Table: 4: Distribution of respondents based on their employment status before retirement

Sr. No.	Employment Status	Young-old		Old-old		Total	
		f	%	*f*	%	*f*	%
1	Gainfully employed	64	71.11	35	38.89	99	55.00
2	Not employed	26	28.89	55	61.11	81	45.00
	Total	90	100	90	100	180	100

Among those women who were employed before retirement a little less than one third had monthly personal income up to Rs. 10,000 (Table-5). More than one fourth had it ranging between 10,001 and 50, 000 per month. Quite a few had it above 50,001 and above. About one fourth of them had no income after retirement. Those who were not employed ever did not have any income in their third age as well.

Table: 5: Personal income per month (Rs) at the time of data collection

Sr.No.	Income	Young-old (n= 64)		Old-old (n=35)		Total (n=99)	
		f	%	*f*	%	*f*	%
1	Up to 10,000	21	32.81	10	28.57	31	31.31
2	10,001-50,000	22	34.38	05	14.29	27	27.27
3	50,001 and above	08	12.50	09	25.71	17	17.17
4	No income	13	20.31	11	31.43	24	24.24

Table 6 reveals that one fifth of the young-old women were employed after retirement also and among old – old group also about 6 per cent were employed. They were either full time or part time doing the work or doing regular social service.

Table: 6: Distribution of respondents by employment status after retirement (in the Third Age)

Sr. No	**Employment status at the time of data collection**	**Young-old**		**Old-old**		**Total**	
		f	%	*f*	%	*f*	%
1	Gainfully employed / self-employed(full/part time)	18	20.0	05	05.56	23	12.77
2	Not employed	72	80.0	85	94.44	157	87.22
	Total	90	100	90	100	180	100

Among those women who were working after retirement also, about 61 per cent of them said that to have economic independence they were working (Table-7). Nearly two third of them took up employment to keep themselves active. Many women did the work as social service and about one third worked just to pass time. There were multiple responses.

Table: 7: Reasons for taking up the employment (n= 23) *

Sr No	**Reasons**	**y-o (n=18)**		**o-o (n =5)**		**Total (n=23)**	
		f	***%***	***f***	***%***	***f***	***%***
1	To have economic independence	9	50.00	5	100.0	14	60.87
2	To keep oneself active	10	55.55	5	100.0	15	65.21
3	To just pass time	08	44.44	0	0	08	34.78
4	Do as “social work “	08	44.44	2	40.0	10	43.48

*multiple answers

The respondents were asked to tell approximate time they spent on various activities during a typical week day at the time of data collection. They were not asked to keep any record, but to answer on the basis of recall method for last one week.

Table: 8: Average time spent by women in the third age on various activities every day(n=180)			
Sr. No.	**Activities**	**Young-old Hours per day (n=90)**	**Old-old Hours per day(n=90)**
1.	Employment/work	5	2
2.	Household work	4	3
3	Leisure/ recreation	3	4
4	Personal care	1	2
5	Social activities	3	3
6	Religious activities	1	2
7	Rest/sleep	7	8

Table no. 8 reports the average time (in hours) spent by the sample daily on various activities. Among the Young-Young group, those who were employed even after retirement spent nearly 5 hours there, whereas, among old-old group they spent 2 hours. The average time spent on leisure, personal care, religious activities and sleep increased among the old-old group than from young old group. The household work included cooking or helping in preparation and/or winding up/cleaning work counter, supervising the hired help, folding clothes, arranging utensils, cupboard and other similar activities. Leisure/ recreation activities included watching television, reading newspaper or magazine, listening to radio, playing on mobile/tab. Morning ablutions and taking meals were included in the category of personal care. Social activities included social visits to /of friends/relatives /neighbours, visit to social institutions and/or participate in social welfare activities. Visiting religious places, prayers and Pooja at home/temple were the religious activities carried out by the people in the third age. Rest/ sleep incorporated the sleep at night as well as afternoon nap and simply lying down or resting doing no activity.

Attitude of the women in the third age towards their age:

The attitude scale revealed (Table-9) that 83 per cent respondents agreed that "people in the third age should have financial security."

Table: 9: Distribution of respondents on the responses of attitude Scale towards the third age (n=180)

No	Statements	Agree		Undecided		Disagree	
		f	*%*	*f*	*%*	*f*	*%*
1	Old age restricts a person's social life	102	56.67	18	10	60	33.33
2	Old people are given due respect in the society	45	25.0	15	8.33	120	66.66
3	Old age makes a person jealous and suspicious	83	46.11	27	15.0	70	38.89
4	Old people are given more care from their children	61	33.88	23	12.77	84	46.67
5	Old people are expected to stay away from family matters which hurts their feelings in the third age	109	60.56	12	6.66	59	32.78

6	Old age makes a person reserved	117	65.0	30	16.66	87	48.33
7	A person in the third age cannot stand any mental stress	132	**73.33**	10	5.5	38	21.1
8	Old age people have expectation of love and respect from young ones	114	63.33	8	4.44	58	32.22
9	Old people cannot readily accept to be dependent on others	142	**78.9**	13	7.22	25	13.88
10	Old age makes a person moody	70	38.89	40	22.22	70	38.89
11	In old age financial needs and income both become limited	136	**75.56**	10	5.56	34	18.89
12	Third age people become very rigid, as, they have set their habits by this age	102	56.67	18	10	60	33.33
13	Old people are reluctant to any change	92	51.11	26	14.44	62	34.44
14	People in the third age feel that their time is spent aimlessly	86	47.78	16	8.89	78	43.3
15	Old people become more self-conscious when they are with the people of the other age group	99	55.0	16	8.89	65	36.11
16	Persons in the third age generally “bore” other people by talking about their own “Good Old Days “	31	17.22	32	17.77	117	65.0
17	Old age makes a person least worried about one’s future	108	60.0	18	10.0	54	30.0
18	In old age a person becomes short tempered	80	44.44	30	16.66	70	38.88
19	People in the third age can maintain a good health through regular physical activities	120	66.66	20	11.11	40	22.22
20	People in the third age feel neglected by their family and relatives	100	55.55	20	11.11	60	33.33
21	Old people should continue to work by way of being employed part time/doing voluntary work/doing household work	120	66.66	21	11.66	39	48.75
22	Old age increases fear of death	110	61.11	40	22.22	30	16.66
23*	People in the third age feel that “Old persons are burden on the family,”	154	85.56	9	5.0	17	9.44
24	Old people should not insist for being consulted while making family decisions	66	36.67	36	20.0	78	43.33
25	People in the third age should have financial security	150	83.33	3	1.66	27	15.0
26	Old people are expected to engage themselves more in religious activities	84	46.67	15	8.33	81	45.0
27	Third age people need more support and help from near and dear ones than what they needed in earlier age.	80	44.44	10	5.56	90	50.00
28	In old age people should become conscious of their food habits to keep good health	85	47.22	41	22.78	54	30.0

29	In old age people make fuss of their ill health to seek attention	66	36.66	51	28.33	63	35.0
30	Regular health checkup is the need of the people in the third age	140	77.78	10	5.55	30	16.66

Table 9 reveals that more than 70 per cent of the respondents agreed on the statements "Regular health checkup is need of the people in the third age" (**77.78 %),** Old people cannot readily accept to be dependent on others (**78.9%)**," In old age financial needs and income both become limited "(**75.56 %)**, "A person in the third age cannot stand any mental stress" (**73.33%)**. Two third of respondents agreed that,"Old people should continue to work by way of being employed part time/doing", "People in the third age can maintain a good health through regular physical activities", "Old age makes a person reserved".But the same percentage of respondents disagreed with the statement that, "Old people are given due respect in the society". A majority of respondents agreed that, "Old people are expected to stay away from family matters, which hurt the feelings of people in the third age". One third of respondents agreed and the similar percentage of them disagreed that, "in old age people make fuss of their ill health to seek attention". Twenty-eight per cent respondents were undecided about this. About 47 per cent respondents agreed and similar percentage of them disagreed that," Old people are expected to engage themselves more in religious activities". About 44 percent respondents agreed that "Third age people need more support and help from near and dear ones than what they needed in earlier age". More than half of the respondents agreed that," People in the third age feel neglected by their family and relatives".

Table:10: Distribution of respondents on attitude towards the third age (n=180)

Attitude	Range of score	frequency	Percentage
Negative	30---50	92	51.11
Neutral	51 ----70	22	12.22
Positive	71 ----90	66	36.66

On the basis of scores obtained on the attitude scale, it was found (table10) that a little more than half of the respondents had negative attitude towards their age and more than one third had positive attitude.

Statistical analysis revealed that the positivity of attitude towards the third age increased with the age (r= 0.72) and education (r= 0.54). A difference in attitude was found between employed and not employed women (t= 3.43).

CONCLUSION

The research conducted on 180 women of third age revealed that more than half of the respondents were gainfully employed before reaching to the third age but after retirement 87 per cent of them were not employed. However, some women were doing some work outside home mainly to pass time and to be economically independent. More than half of the respondents had negative attitude towards their age.

IMPLICATIONS

The study revealed a need for organizing some counseling sessions with those women who have negative attitude regarding their age. More in-depth case studies should be done and need based counseling should be done to bring their self-image or self-worth up. Activities and programmed should be organized involving them where their knowledge and skills can be utilized. Educational institutions and NGO can play an important role in this regard. Due to time constraints, such activities could not be conducted by the researcher.

REFERENCES

- Bali, A., (2003) Aging and Culture: Exploring the experience of aging. From: Aging-Emerging Issues; Bangalore University.
- Gross, I.H., Crandall, E.W., and Knoll, M, M., (1980). Management for Modern Families, New Jersey; Prentice Hall Inc
- Laslett, P. (1987). "The emergence of the Third Age". Ageing and Society, :7:. 133-160.
- Laslett, P. (1991). A fresh map of life: The emergence of the third Age, (Paperback ed.) London: George Wiedenfieldand Nicolson
- Nickell, P,Rice, A, and Tucker, S, (1976) Management in Family Living, New York, John Wiley and Sons.
- R. Geetha Gowali, P.J. Reddy, D. Usha rani,. (2003) Elderly women: A study of the unorganized sector, New Delhi, Discovering Publishing House.
- WHO , Aging and Health,https://www.who.int/en/news-room/fact-sheets/detail/ageing-and-health, 5 February 2018

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EXTENT OF SATISFACTION EXPERIENCED BY SELECTED RESIDENTS OF VADODARA CITY REGARDING FALSE CEILING

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ABSTRACT

Additional ceiling created after the original ceiling is called" false ceiling" or"drop ceiling" or "suspended ceiling". It hides features like wiring, light holders and AC ducts and provides decorative lighting effects. A wide variety of false ceiling materials are available in the market with different characteristics, looks, costs and designs. It is very important for those who desire to install false ceiling to gather knowledge regarding materials, the problems and satisfaction of those consumers who have already installed false ceiling in their home. A dearth of research was found in relation to these aspects, hence, a study was undertaken on the extent to which satisfaction was experienced regarding the false ceiling materials among selected residents. The present study was descriptive research in nature. 120 residences from various parts of Vadodara city, where false ceiling was installed during the period of January 2010 to December 2014 were selected as sample. Interview schedule was used for collection of data.The individual who took the decision of installing false ceiling was the key respondent. Through a Summated Rating Scale, the extent of satisfaction was found in relation to cost, material, functionality, aesthetics, light, construction, and maintenance of the false ceiling installed. It was revealed that a wide majority of the respondents had high and one third had moderate extent of satisfaction regarding false ceiling in their house. The findings also revealed that majority of the respondents had high level of satisfaction regarding gypsum as material of false ceiling.

Keywords: False ceiling, Extent of Satisfaction,

INTRODUCTION

A ceiling is an overhead interior surface that covers the upper limits of a room. It is not generally considered a structural element, but a finished surface concealing the underside of the roof structure or the floor of a storey above. Additional ceiling created after the original ceiling is called false ceiling (Seetharaman & Pannu, 2012). It is also known as "drop ceiling" or "suspended ceiling" which is a second ceiling that is suspended close to the main ceiling with a metal frame" [1][4]. It hangs lower from the roof leaving space between actual roof and ceiling [2]. This space has the advantage of providing a dead air space between the tiles and the ceiling , this space has a considerable acoustic damping effect of its own (Bradman, 1964).

False ceilings must have better acoustics, aesthetics, ambience, lighting, covering service lines and for better indoor environmental impacts. Basic considerations in the selection of a ceiling assembly include the type of assembly itself, the type and extent of mechanical/electrical services

to be incorporated, sound control, fire resistant rating and heat flow; the type of the ceiling membrane to meet in service performance requirements. The use of false ceilings was restricted to commercial buildings with heavy-duty lighting and air-conditioning. But more and more home owners are opting for false ceiling, which hides ugly features like wiring, light holders and AC ducts [3]. Therefore, it is essential to gain knowledge regarding the false ceiling material which is suitable to people's requirement. For many years, dropped ceilings were made of basic white tiles, but modern innovations now offer a plethora of options in sizes, colors, materials ,visual effects and shapes, patterns, textures as well as support systems and ways to access the plenum [10]. Today, wide range of ceiling materials is available with different properties and characteristics such as gypsum board, metal, wood, fiber, glass, plaster of Paris (POP) acoustic tiles, PVC, thermocol [4].

Advantages of False ceiling: False ceiling imparts an aesthetic appearance the interiors of the place, It conceals all the non-pleasing elements such as air-conditioning systems and electrical wiring and structural damages, if any [5]. It gives thermal insulation and sound proofing to the rooms such as meeting rooms, auditoriums, etc [9]. Where the actual roof of the building is too high, false ceiling helps in bringing down the height and volume of the room, thereby, increasing the efficiency of the heating/cooling devices [7]. It helps to accommodate lighting systems, to provide lighting effects such as hidden lighting, wall washers, cove lighting and floating light effects on the ceiling. False ceiling provides fire protection as it creates compartment [5], and due to the barrier created by these ceilings, the structure is protected for a longer time before coming down eventually. As these ceilings do not touch the roof and the floor above, vibrations created with foot-falls or other sounds are almost nil [7].

Disadvantages of False Ceiling: False ceiling needs maintenance. These are more prone to moisture, pest attack and decay over time, resulting in an unattractive yellow coloring [9].The normal height of the room is further reduced by the false ceiling. It can create a cramped and claustrophobic feel in more standard-sized rooms [9]. It is also more difficult to perform maintenance on or diagnose problems with the concealed systems. Wiring and piping installed behind false ceilings are difficult to modify once the ceiling is installed. The ceiling may need to be demolished in order to make changes [8].

Tiles of various types: A variety of materials for false ceiling are available, such as: Gypsum board (Gypboard), Metal, Wood, Fiber, Glass, Synthetic leather, Plaster of Paris (POP), Acoustic Tiles, Polyvinyl chloride, Thermocol. It is important to select the correct type of material for the specific use.

Justification of the study:

Today false ceilings have made their way right into the urban middle-class apartments, yet, they remain least understood and underutilized part of home décor. False ceilings enhance the aesthetic appearance of house. They not only hide ugly features but are also becoming popular nowadays for the energy efficiency of the buildings and soundproofing the room. One can select false ceiling material and design according to one's budget and the use of a particular room. A huge investment is made for making false ceiling; therefore, it is very essential that right kind of material is selected [5][6].

It is very important for those who desire to install false ceiling to gather knowledge regarding false ceiling materials and its suitability for particular area according to its use. It is also important to find out the problems and satisfaction of those consumers (house owners) who have already installed false ceiling in their home. Their experiences would throw light on the positive and negative aspects of various materials used for false ceiling.

The review of literature regarding false ceiling revealed that a few researches were done on the effect of suspended ceilings on energy performance and thermal comfort , the effect of using false ceiling on roof cooling load, Seismic fragility of suspended ceiling systems. These were mainly conducted in foreign countries. But researches on the extent of satisfaction experienced by the people who installed false ceiling in residents of India, was hard to find. The investigator considered it important to undertake a study on false ceiling which will focus on the satisfaction experienced regarding the false ceiling materials among selected residents.

OBJECTIVE OF THE STUDY

To find out the extent of satisfaction experienced by the users of false ceiling in their homes

METHODOLOGY

The present study had a descriptive research design. It was conducted in selected areas (VIP road, Makarpura, Waghodia road, Alkapuri, Gotri, and New Sama Road) of Vadodara city. Twenty respondents from each area were selected as sample through purposive sampling, making total of 120 respondents. The member who took the decision of installing false ceiling was the key respondent for the study. Residences, where false ceiling was installed during the period of January 2010 to December 2014 were selected as sample. Interview schedule was used for collection of data. A Likert type of "Satisfaction scale" having 3 point continuum was developed by the researcher and was subjected to establishment of content validity and Test – retest reliability which were found to be having high value. The data were gathered in Nov-Dec. 2015.

MAJOR FINDINGS OF THE STUDY

1. **The Respondent - major decision maker:** The major decision maker to install false ceiling in home were male. They either took the decision alone or together with wife, children or other family members. In case of joint decision makers, the one who was willing to be the respondent for the study was considered as the key respondent, thus, all the respondents were male.

Table 1: The major decision maker to install false ceiling in home

Sr.No.	Major decision maker	Respondents(n=120)	
		f	%
1	Husband alone	29	24.17
2	Husband + wife:	28	23.33
3	Husband + wife+ children	27	22.50
4	Husband + wife + children + other	15	12.50
5	Husband + children	17	14.17
6	Husband + other	04	03.33

In about one fourth of the total cases, husband alone took decision to install the false ceiling in house. In less than one-fourth of the total cases husband and wife took the decision (Table- 1). In less than one-fourth of the total respondents the husband, wife and children jointly took decision.

2. **Age of the respondent**: Age of the respondents ranged from 25 years to 65 years with a mean of about 44 years (Table 2).

Table 2: Distribution of the respondents according to age

Sr.No.	Age of the respondents (in years)	Respondents (n=120)	
		f	%
1	25-35	26	21.66
2	36-45	41	34.17
3	46-55	43	35.83
4	56-65	10	8.33
	Mean	**43.825**	
	S.D	**9.083**	

More than one third of the respondents belonged to the age group of 36-45 and 46-55 year. Less than one fourth of the respondents belonged to the age group of 25-35 year (Table-2).

3. **Education of the respondents**: Education of the respondents was categorized as secondary, higher secondary, graduate and post graduate studies completed. More than half of the respondents were graduate, a little less than one fourth of the respondents were post graduate. Less than one fifth of the respondents had done higher secondary and very few had completed secondary education (Fig-1).

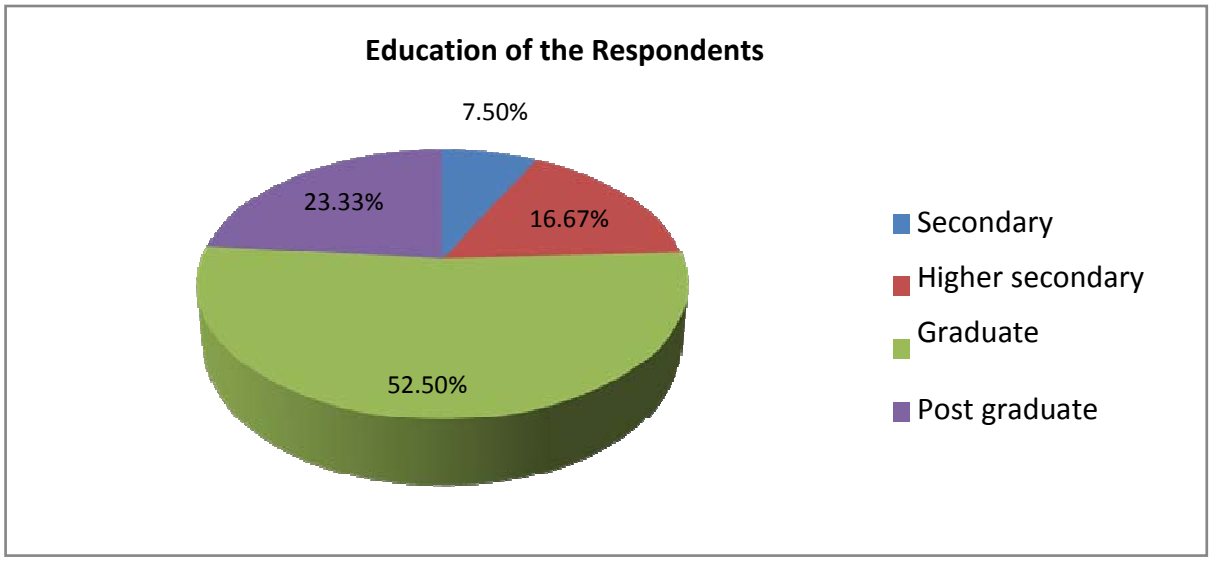


Figure- 1: Percentage distribution of the respondents according to their education

4. **Occupation of the respondents**: It was categorized as business, service and not employed. More than half of the respondents were doing service while more than one third of the respondents were doing business (Fig-2).

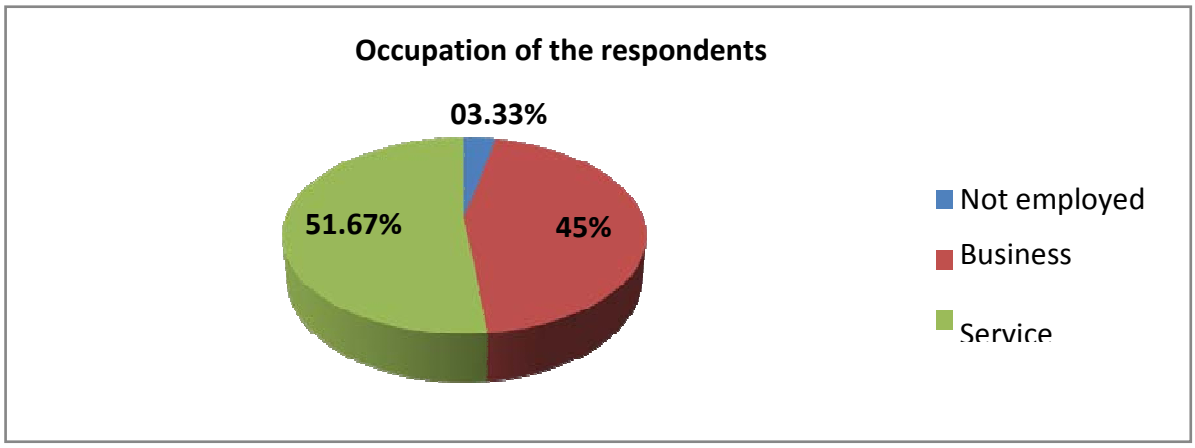


Figure- 2: Percentage distribution of the respondents according to their occupation

5. **Family income of the respondents**: The family income of the respondents was found to be ranging between ₹ 25,000 – ₹ 1, 00,000 and above per month**.**

Table 3: Distribution of the respondents according to family income

Sr.No.	Family income of the respondents per month (in Rs)	Respondents (n=120)	
		f	%
1	≤30,000	09	07.50
2	30,001-60,000	86	71.67
3	60,001-90,000	20	16.67
4	≥90,001	05	04.17
	Mean	**50,375.00**	
	S.D	**17028.92**	

Little less than three fourth of the respondents had their monthly income ranging between ₹ 30,001 – ₹ 60, 000. Less than one fifth of the respondents had their monthly income in the range of ₹ 60,001 to ₹ 90,000 and very few had it equal to or less than ₹ 30,000 (Table-3).

Type of house of the respondent: More than three fourth of the respondents lived in tenement/duplex; a little less than one fifth of the respondents lived in apartment (Table-4).

Table 4: Distribution of the respondents according to type of house

Sr. no.	Type of house	Respondents (n=120)	
		f	%
1	Apartment	21	17.50
2	Tenement/Duplex	99	82.50

6. **Time period since false ceiling have been installed**: The time period since false ceiling have been installed was classified as 1 year, 2 year, 3 year, 4 year and 5 year.

Table 5: Distribution of the respondents according to the time period since false ceiling have been installed

Sr. No.	Time period since false ceiling have been installed	Respondents(n=120)	
		f	%
1	1 year – less than 3 years	48	40.00
2	3 year – 5 year	72	60.00
	Mean	**3.025**	
	S.D	**1.416**	

Forty per cent of the respondents had installed false ceiling since 1 year to less than 3 year and majority of the respondents had installed false ceiling since 3 year to 5 year. (Table-5, Fig-3)

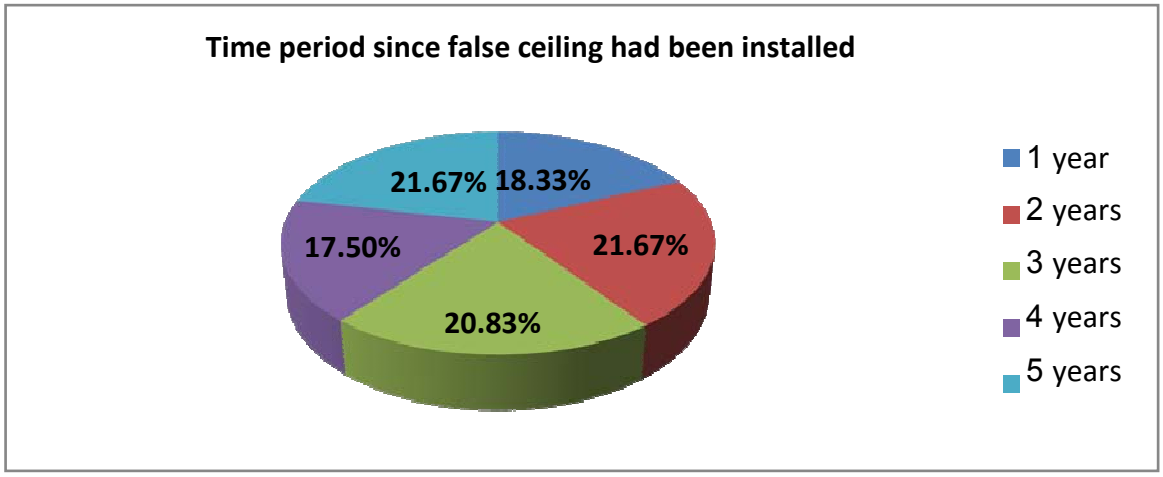


Figure- 3: Distribution of the respondents according to time period of installing the false ceiling

7. **Purpose of installing false ceiling**: The respondents were asked to state for which purposes they installed false ceiling.

Table 6: Distribution of the respondents according to purpose of installing false ceiling

Sr.No.	Purpose of installing false ceiling	Respondents (n=120)	
		f	%
1	For Aesthetics	54	45.00
2	To keep the room cool	32	26.67
3	For energy efficiency	08	6.67
4	Fashion – just because others have done	09	7.50
5	Ceiling was very high	02	1.67
6	Some remedies related to Vastu were need to be done so hide it	00	0.00
7	Like to have lighting from it	08	6.67
8	For soundproofing the room	02	1.67
9	To hide the unnecessary feature	05	4.17

It was found that a less than one half of total respondents installed false ceiling for aesthetic purpose. More than one-fourth installed false ceiling to keep the room cool and very few used it for other purposes (Table-6, Fig-4).

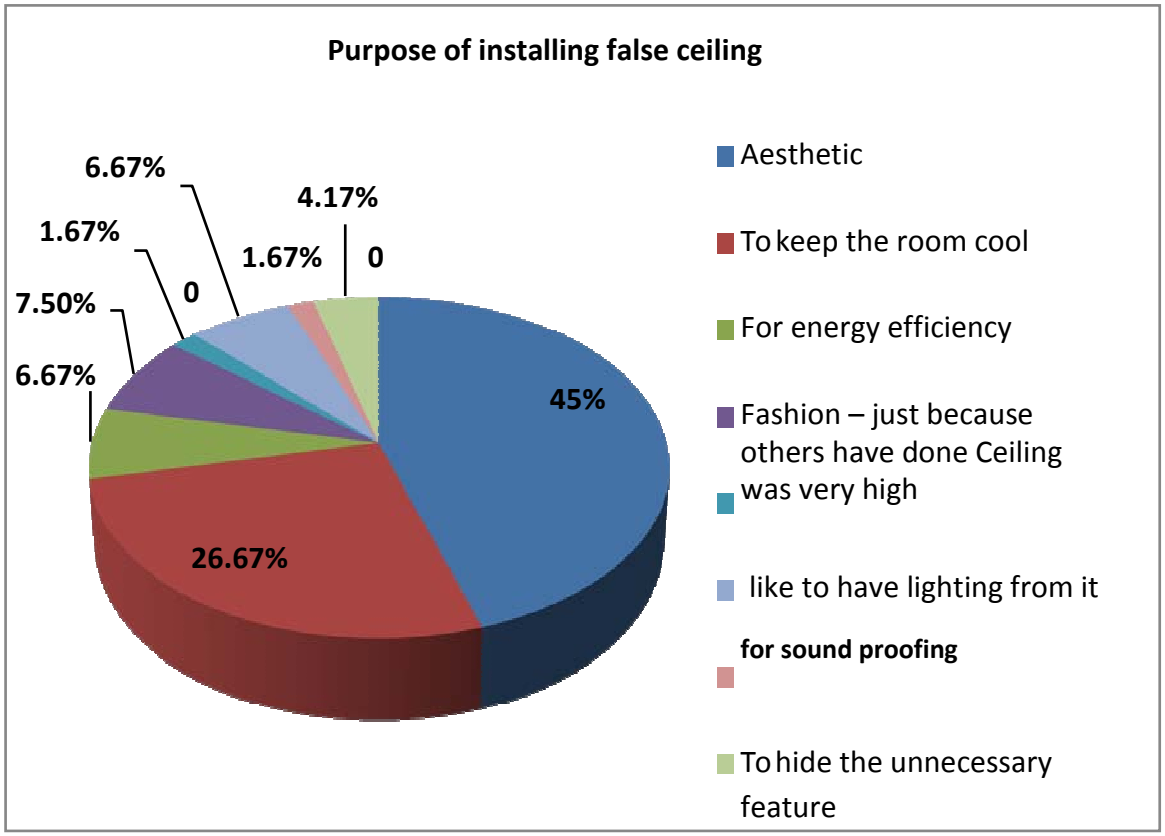


Figure- 4: Percentage distribution of the respondents according to purpose of installing false ceiling

8. **Type of materials used in false ceiling**: Less than one half of the respondents had installed gypsum material in false ceiling while more than one half of the respondents had installed Plaster of Paris (POP) material in false ceiling.

Table 7: Distribution of the respondents according to type of material used in false ceiling

Sr. No.	Type of material used	Respondents (n=120)	
		F	%
1	Gypsum	55	45.83
2	Plaster of Paris (POP)	65	54.17

9. **Cost of installing false ceiling**: Approximate cost of installing false ceiling in house ranged from less than ₹ 15,000 to ₹80,000 at the time of installation.

Table 8: Distribution of the respondents according to approximate cost of installing false ceiling

Sr. No.	Approximate cost of false ceiling (In ₹)	Respondents (n=120)	
		f	%
1	≤15,000	16	13.33
2	15001-30000	53	44.17
3	30001-45,000	29	24.17
4	45,001-60,000	17	14.17
5	60,001-80,000	05	04.17
	Mean	**31,333.33**	
	S.D	**15,559.77**	

A little less than one half of the respondents had the approximate cost of installing false ceiling in the range of ₹ 15,000 – ₹ 30,000. About one fourth of the respondents had it between the ranges of ₹30,000 - ₹45,000. About one fifth of the respondents had installed false ceiling in less than ₹15,000. A little more than one fifth of respondents had the cost between the range of ₹45,000- ₹60,000 (Table-8).

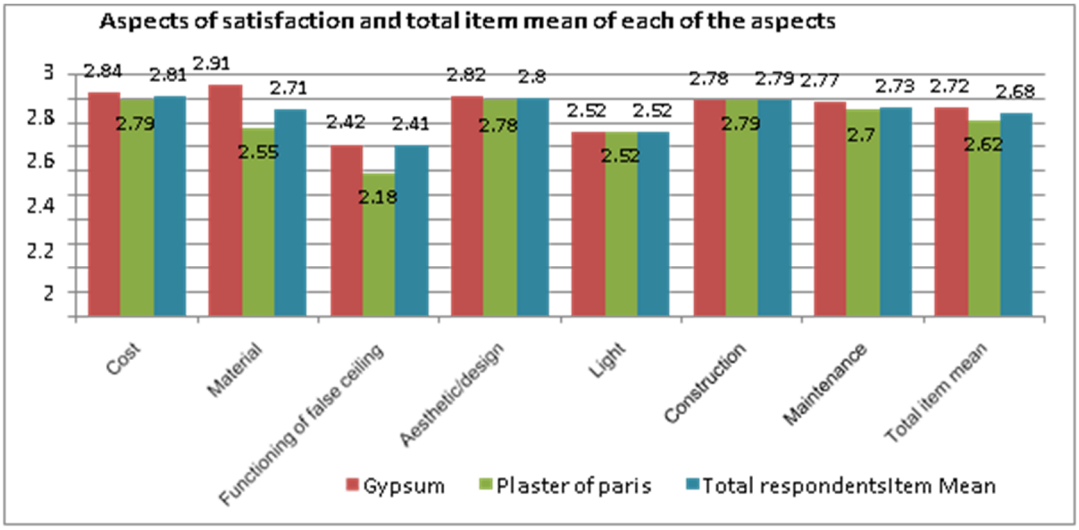
10. **Satisfaction experienced with false ceiling installed in home**: The respondents expressed their extent of satisfaction as 'less satisfied', 'somewhat satisfied' and 'highly satisfied' on various aspects about false ceiling installed in their home on a rating scale developed by the researcher. A scoring of 1, 2, and 3 was ascribed to the responses respectively. The range of minimum and maximum possible scores was divided in to 3 categories on the basis of equal interval to describe extent of satisfaction. An attempt was made to compare the data of both the false ceiling materials (i.e., gypsum and plaster of Paris). The aspects of satisfaction included were cost, material, functioning of false ceiling, aesthetic (design), light, construction, maintenance.

The findings revealed that none of the respondents had experienced 'low' extent of satisfaction regarding any of the false ceiling materials. Less than one third of the respondents had experienced 'moderate extent' of satisfaction regarding various aspects of false ceiling, of which, more were from those who had installed POP. Majority of the respondents had experienced 'high extent' of satisfaction regarding various aspects of false ceiling, of which, more were from those who had installed gypsum (Table-9).

Table -9: Distribution of the respondents according to the extent of satisfaction experienced regarding false ceiling installed: an overall view

Sr. no.	Extent of satisfaction	score	Gypsum(n=55)		POP(n=65)		Total respondents (n=120)	
			f	%	f	%	f	%
1	Low	28-46	00	00.00	00	00.00	00	00.00
2	Moderate	47-65	14	25.45	23	35.38	37	30.83
3	High	66-84	41	74.54	42	64.61	83	69.17

Figure- 5: Various aspects of satisfaction according to their total item mean



The item mean was calculated for each of the aspect and total for the false ceiling based on the responses obtained. The possible score of item mean ranged from 1 to 3. Out of it 1.00 to 1.50 was considered as low level of satisfaction, 1.51 to 2.50 as moderate level and 2.51 to 3.00 as high level of satisfaction. Out of all the aspects of satisfaction, majority of the respondents from total sample were highly satisfied regarding "cost" aspect, of which, more were from those who had installed gypsum (Fig- 5). Majority of the respondents had low level of satisfaction regarding the aspect of "functioning of false ceiling", of which, more were from those who had installed POP as false ceiling. Nearly half of the respondents were "somewhat satisfied" and one third were "least satisfied " with the' heat insulation' and 'soundproofing' functions of the false ceiling, irrespective of material. The total item mean of gypsum was found to be higher comparing to POP. Thus, majority of the respondents had high extent of satisfaction regarding gypsum than POP. More respondents having POP had moderate level of satisfaction. A difference in the satisfaction was

statistically found significantly different between those respondents having Gypsum and POP false ceiling (t=2.76, sig . 0.01).

CONCLUSION AND IMPLICATION OF THE STUDY

None of the respondent had experienced low extent of satisfaction regarding any of the false ceiling materials. Majority of the respondents had experienced high extent of satisfaction regarding various aspects of false ceiling, of which, more were from those who installed gypsum. The users of gypsum material showed high extent of satisfaction regarding false ceiling comparing to the POP material. The findings of the study will help the interior designer and architects to understand which type of material is more satisfying for the people regarding false ceiling.

RECOMMENDATION FOR THE FURTHER STUDY

A similar study can be conducted with a larger sample size where problems and satisfaction regarding all the types of materials can be undertaken.

REFERENCES

1. Bradman W.A.G. (1964). “Make the most of your home” country life limited, London.
2. Seetharaman.P and Pannu.P (2012). “Interior design and decoration.” CBS publishers and distributors pvt.ltd. Noida(UP).

WEBLIOGRAPHY

1. http://www.contractorbhai.com/cost/false-ceiling/ (DATE: 9/5/2015) Retrieved on: 9th May2015
2. http://starsricha.snydle.com/false-ceiling-materials.html Retrieved on: 9th May 2015
3. http://timesofindia.indiatimes.com/india/False-ceilings-Mind-the-roof-over-your-head/articleshow/44788424.cmsRetrieved on: 9th May2015
4. http://theinteriorconcepts.blogspot.in/2013/01/false-ceilingdropped-ceiling-and-its.html Retrieved on: 9th May2015

5. http://starsricha.snydle.com/false-ceiling-materials.html Retrieved on: 9th May 2015.
6. http://www.thehindu.com/todays-paper/tp-features/tp-propertyplus/true-features-of-false-ceiling/article2352300.eceRetrieved on: 9th May2015
7. http://www.prismma.in/false-ceiling-design-india/ Retrieved on: 20th August 2015
8. http://homedesign.sg/false-ceilings/false-ceilings/ Retrieved on: 20th August 2015
9. http://www.ehow.com/info_8193290_meaning-false-ceiling.html Retrieved on: 19th August2015
10. https://en.wikipedia.org/wiki/Dropped_ceilingRetrieved on: 19th August2015

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FORMULATION AND EVALUATION OF CEREAL BASED SUPPLEMENTARY FOOD FOR PRE-SCHOOL CHILDREN

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ABSTRACT

Study on multigrain mix porridge was formulated using wheat flour, pulses, groundnut, milk and sugar with four variations. The developed food was evaluated for sensory parameters, nutritive value and acceptability among children. Porridge regarding test T4 treatment was liked very much (between 7 and 8). Regarding acceptability among children overall all the treatments of the porridge were accepted. Treatment in different ratios revealed an increase in the concentration of the nutrient. In T2 treatment calcium and beta-carotene were highest followed by T4 and T3 treatments. The concentration of proteins found to be quite similar between 11.05 and 13.65(g) was observed.

Keywords: Pre-School, sensory, evaluation, nutrition, assessment

INTRODUCTION

Health is the functional and metabolic efficiency of living beings. Malnutrition and under nutrition among infants and pre-school age children continues to be a problem of considerable magnitude in most of the developing countries of the world. More than one-third of the child population in India, the children don't grow up to their full physical and mental potential due to malnutrition and nutrient deficiency diseases. The mortality rate among children less than 5 years in these countries roughly ranges from 10-40 times higher than in industrialized nation (UNICEF, 1998)

Preschool age is the time of rapid physical growth as well physiological, immunological and mental development. During this period, nutritional requirements are at the highest in the entire life cycle. Diet consumed by the majority of low income groups of population are deficient from various important nutrients such as protein, carbohydrates, minerals and vitamins, the consequences of consuming such deficient diet are striking seen in weaned infants and pre-school age children.

Supplementary foods are therefore transitional foods consumed between the time when the diet is composed exclusively of mother’s milk and the time when it is mostly made up of family foods. Initiation of supplementary food makes up a large proportion of preschool age diet and contributes to a significant amount of the nutrients that are essential for growth and development of children. Keeping this in view, a recipe of food product –porridge- was developed and evaluated.

OBJECTIVES:

1. To formulate and evaluate the food product for preschool children.
2. To assess the nutritive value of food product.

HYPOTHESIS:

The porridge recipe developed will be liked and accepted by the children.

REVIEW OF LITERATURE

Gopalan (1986) stated that the majority of Indian children are still in a state of under nutrition as assessed by anthropometric measurements. Despite the green revolution and the significant contributions of nutritionists toward understanding the problem of malnutrition and offering solutions, the children continue to be undernourished in large sections of the rural and urban population.

Protein Energy Malnutrition (PEM) occurs during the transitional phase when children are weaned from liquid to semi-solid or fully adult foods. High price of commercially available weaning foods, vegetables, animal proteins and the non-availability of low priced nutritious foods, combined with bad feeding practices and late introduction of supplementary foods, are most responsible for these malnourished children **(Suite, 2007)**. Moreover, iron deficiency is the most common and widespread micronutrient disorder worldwide which affected over 2 billion people or about 30% of the world population **(WHO, 2013)**

A study by **Ramachandran and Gopalan (2009**) found that there was a progressive increase in underweight and stunting rates between 3 and 23 months of age. Thus, the service component should be strengthened especially for children less than two years with respect to exclusive breastfeeding, supplementary feeding practices, regular growth monitoring, prevention of infection, immunization, health and nutrition education of mothers with necessary follow up and corrective actions.

Good nutrition during infancy and childhood are essential for physical and mental development. Several strategies have been used to improve the nutritive value of weaning foods, namely, malting, dry roasting, milling, steaming, boiling, and sprouting which are some simple processes being used in the preparation of weaning foods. Food based approaches used in combination with nutritional education programmes can be used as a strategy to overcome the nutrient deficiencies. One such strategy is to incorporate legumes with cereals. Therefore, locally available legumes such as mung bean (vigna radiata) and soya bean (Glycine max) can be used due to their high protein and iron content. Moreover, these two legumes have been popularized in the South Asian diets for a long period of time as these cereals are for relatively low income families **(Vijayalakshmi et al., 2003).**

Times of India, Pune reported on May, 30, 2010, that around 12 lakh children under the age of six in Maharashtra would fall in the 'severely underweight' category when they would be checked under the World Health Organization's (WHO) child growth standards in July. Till then, the Integrated Child Development Scheme (ICDS) used Indian Academy of Pediatrics (IAP)

standards for monitoring the growth of children under six. It put the figure of malnourished children at 7,000. The switch over to the WHO parameters would result in a substantial increase in the underweight prevalence estimates in the state, experts said.

METHODOLOGY AND RESEARCH DESIGN

The research design of the present study was experimental. Based on availability, nutrient content and cost the ingredients like ragi, rice, wheat, green gram, and groundnut were procured in one lot, cleaned and stored. The grains of ragi, rice, wheat and pulse were cleaned, dried and roasted separately till grains turned light brown and aroma developed. Ground nuts were roasted and de-skinned. The roasted grains were mixed and powdered. A Total of five multigrain mix coarse powder was developed.

By mixing all five multi grains with milk and sugar with four variations (T1, T2, T3, T4), a recipe of porridge was developed. Sensory evaluation was carried by a panel of judges on a nine hedonic scale and it was identified which variations received the highest rank at laboratory level.

The nutritive value of the porridge was also calculated. A group of children from a low-socio economic group served as a target group with help of mother. Mothers were also tested for their acceptability and were asked for their opinion on porridge. Their opinion was put under the following category "*liked very much", "liked moderately" and "acceptable"* by their children.

Porridge

- T1- in this treatment, ragi, rice and wheat flour, green gram flour and groundnut flour were taken in the ratio of 30:20:10
- T2- in this treatment the ratio was 10:30:20
- T3 - in this treatment, the ratio was 20:10:30
- T4- the ratio was 20:20:20.

RESEARCH FINDING AND DISCUSSION

The results of present study, as well as relevant discussions have been presented under the following sub heads:

- **Sensory evaluation of food products** - Grain mix porridge with four variations were used for comparison.

Table 1: Mean sensory score for porridge regarding flavour

Replication Treatment	Sensory Scores					Mean±S.Em
	R1	R2	R3	R4	R5	
T1	8	8.5	8	8	8	8.1±1.75
T2	7.5	8	8.5	7.5	7.5	7.8±L68
T3	7	7	7	7	7	7±1.51
T4	8	8.5	8.5	8	8.5	8.3±1.79

F = 4 (3, 12), Significant, P = 0.05
T1 30:20:10, T2 = 10:30:20, T3 = 20:10:30, T4=20:20:20

Result : The table pertaining to the effect on flavour of porridge prepared with whole wheat flour, green gram flour and groundnut mixed with milk and sugar in different ratio revealed that T4 treatment scored maximum as the ratio of various ingredients was equal, followed by T1, T2 and T3.

The ANOVA table shows a significant difference (p=O.O5) between the four treatments of porridge regarding the flavour. So, it is concluded that T4 is liked very much while T1, T2 and T3 were also acceptable and liked moderately in relation to flavour of porridge.

Table 2: Mean sensory score of porridge regarding taste

Replication Treatment	Sensory Scores					Mean±S.Em
	R1	R2	R3	R4	R5	
T1	8.5	8.5	8.5	8	8	8.3±1.79
T2	8	8	8.5	8	8	8.1±1.75
T3	7.5	7	7.5	7	7	7.2±1.55
T4	8.5	8.5	8.5	8.5	8	8.4±1.80

F= 3.66 (3, 12), Significant,

T1 = 40:20:40, T2 = 70:20:10, T3 20:20:20, T4=20:40:40

Result : Table 2 illustrates the average score of porridge with regard to taste. The treatment T4 which was prepared in equal ratio scored maximum followed by treatment T1, T2 and T3.The ANOVA table shows a significant difference (p=0.O5) between the four treatments of porridge regarding the taste. So from the result it can be concluded that T4 was liked very much regarding the taste of porridge while the treatment T1, T2 and T3 were also acceptable and liked moderately.

Table 3: Acceptability of porridge

Replication Treatment	Sensory Scores					Mean±S.Em
	R1	R2	R3	R4	R5	
T1	8.5	8.5	8	8	8.5	8.3±1.79
T2	8	8	8	8.5	8.5	8.2±1.77
T3	7.5	7.5	7	7	7.5	7.3±1.58
T4	8.5	8.5	8.5	8.5	8	8.4±1.80

F= 6 (3, 12), Significant, P = 0.05
T1 = 30:20:10, T2 = 10:30:20, T3 = 20:10:30, T4=20:20:20

Result: The table pertaining to the effect of whole green gram flour and groundnut in different treatment on overall acceptability of porridge indicated that the treatment T4 scored maximum followed by treatments T1, T2 and T3 respectively.

The ANOVA table shows a significant difference (p=O.OS) between the four treatments of porridge regarding the overall acceptability. So, from the result it is clear that all the treatments were acceptable.

Table 4: Nutritive value of porridge

Treatment (WWF : GF: BGF)	Protein (g)	Fat (g)	calcium (mg)	Iron (mg)	β carotene (μg)	Folic acid (μg)
T1(30:20:l0)	11.05	4.76	46.9	2.66	24.5	10.74
T2 (10:30:20)	13.65	8.52	57.4	2.43	31.1	7.09
T3 (20:10:30)	12.68	12.41	45.1	2.35	15.2	7.16
T4 (20:20:20)	12.46	8.56	49.8	2.48	27.6	7.16

Table 4: illustrates the effect on nutritive value of porridge prepared with whole wheat flour, green gram flour and groundnut flour at 4 variations revealed increase in the concentration of nutrients.

At ratio 10:30:20 (T2) calcium and [β -carotene were highest (57.4mg and 31.1 μg) followed by T4 (49.8mg and 27.6 μg) T1 (46.9mg and 24.5 μg) and T3 while folic acid ranges from 10.74mg to 7.16 μg

The concentration of protein was found to be quite similar to each other and was found to be highest at T3 (12.68) and iron finds its highest place at T1 (2.66mg).

CONCLUSION

In the present study, the multigrain mix recipe porridge formulated for children was based on locally available low cost foods that can be affordable by the low socioeconomic population. The porridge was liked and accepted. The multigrain mix can be stored for a period of six month. The processing techniques are affordable at the household level. Hence, locally available low cost homemade complementary foods are suitable for supplementing the nutrient to preschool children and helpful to overcome the problem of 'under nutrition'.

Suggestions: Such homemade multigrain mix food can be promoted as an intervention programme for improving the health and nutritional status of children especially preschool age children, thereby preventing the occurrence of 'under nutrition' and 'protein -energy malnourishment'.

REFERENCES

- Gopalan, c. Nutritional status of India's children, N.R.I. Bulletin, Vol.7, No.1, 1986
- Ramchandran and Gopalan, (1990) HS. Undernutrition and risk of infection in preschool children. Indian J.Med.Res, 130:579-83
- Suite, (2007). Weaning food: Characteristics, Guidelines and the role of soyfood. World Initiative for soy in Human Health: st. Lous, U.S.A.
- Umesh Isalkar, Times Of India, Pune, Published on May 30, 2010.
- UNICEF, (1988) The State of the world's Children: Oxford University Press
- Vijayalakshmi et.al.(2003). Production of legume-fortified weaning foods. Food research international, 35(2), 233-237
- World Health Organization (WHO) 2013. Micronutrient deficiencies, htt://www.who.Int/nutrition/topics/ida/en/index. HTML, 05.03.2013

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MULTIGRAIN NUTRITIOUS PRODUCTS AND DISSEMINATION OF PROCESS FOR WOMEN EMPOWERMENT AT HOUSEHOLD LEVEL

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ABSTRACT

Increase in diet-related diseases is a major public health problem. These problems may be worse in some Indian communities, because, access to affordable nutritious foods is difficult. In some areas certain households have easier access to fast food restaurants and convenience stores, but at the same time, they have limited access to healthy food. Limited and relatively easier access to less nutritious food may be linked to poor diets and, ultimately, to underweight/ obesity and diet-related diseases. Supplementation of locally grown grains has effective strategy that can be used to overcome nutrient deficiencies. Micronutrient deficiencies, especially of vitamin A, iron, iodine, and zinc, are widely prevalent in both developing as well as some developed countries. The present research was carried out to assess nutritional quality of soy millet grains and the food products developed. Study was designed to empower women by training them for job/self employment at household level by giving them training through demonstration to prepare and sale nutritious food products, using locally available raw food materials, including soybean, millets, and wheat flour to design composite mixes. Training programme to prepare traditional food items *puranpoli* and *ladoo* in a new innovative way was given to 25 women living in urban slums of *Anna Nagar* of Bhopal. The results of study showed that soy and millet grains contain many health-promoting components such as dietary fiber, minerals, vitamins, and phytochemicals that include phenolic compounds, and they are comparable to those of major grains. Multi-grain *Ladoo a*nd *Puranpoli* are products providing variety of nutrients and can be recommended for all age groups as they also have several potential health benefits.

Keywords: women empowerment, soy-flour, millet -flour, ready to eat (RTE)

INTRODUCTION

According to the State Hunger Index, (2008) Madhya Pradesh has severe malnutrition problems in the world. M.P is one of the highest producers of soybean (nutrition rich food legume) in India (2013) Farmers of M.P. themselves do not utilize soybean grown in abundance but prefer to sell it. Lack of awareness is one of the biggest reasons as farmers do not know about the nutritional quality of soy bean. The presence of flavonoids, like tricin, acacetin, 3, 4 Di-OMe luteolin, and 4-OMe tricin in traditional recipes, indicate the chemo-preventive efficacy of millet (**Nambiar et al., 2012**). They may be inversely related to mortality from coronary heart disease and to the incidence of heart attacks in the pearl millet (bajra) consuming belts of the world (**Saleh et al., 2013**). The diabetes preventing effect of millets is primarily attributed to high fiber content. Hence, use of seasonal, local, low-cost and abundantly available raw food ingredients having high nutritional and functional properties (cereals, millets, and soybean) need to be made popular.

Since millet grains are gluten-free and based on results of some laboratory trials, they are not easily converted into easy-to-handle solid food products. Thus, use of millet grains as replacement in wheat composite flours, complementary food, and food blends seems the best method that can be used for the preparation of nutritional, "healthy", high-quality, and shelf-stable food products at household and commercial scales to promote utilization of millet grains. The nutritive value and potential health benefits of multi grains were found in researches as comparable to major cereals such as wheat, rice, and maize and were found to improve their edible and nutritional characteristics. Utilization of millet grains as food is still mainly limited to populations in rural areas at the household level. In addition, to produce high-quality products at a commercial scale for urban consumers, there is a need for innovative processing technologies for preparation of millet grain food.

Need of the study: The present study is based on developing innovative methods of preparing traditional food products at household level in slum area of Bhopal city, so as to address the two major issues of Madhya Pradesh–**Malnutrition and Women empowerment.** Locally available multigrain including soybean and millets are used to prepare composite mixes. Study design was focused on formulating multigrain mix for the production of nutritionally balanced foods products used as RTE snacks, which are made available at low cost. They were evaluated for acceptability.

AIM AND OBJECTIVES

The main aim of the study was to utilize locally available raw food ingredients to make "Ready To Eat" (RTE) nutritious food products- the traditional recipes of Puranpoli and Laddo in innovative way- and to disseminate the knowledge of the preparation process to the women so that they can do household production, sell it, earn money and be empowered.

Specific Objectives:

- Development of multigrain nutritious flour with combination of locally grown grains in Madhya Pradesh (wheat, soybean and millets- kudo, Kutki).
- Preparation of Puranpoli and laddo using the multigrain flour developed for the study**.**
- Analysis of the nutritional value and Techno-economic feasibility of developed product.
- Conducting training programme to Disseminate knowledge of the process of preparing Puranpoli and Laddo through Demonstration to the women of urban slums of Bhopal city so as to empower them.

HYPOTHESES

Experimental Research Design is used in the current study to prove the alternate hypotheses. The hypotheses are formulated according to the objectives planned.

H_1: Use of soy-millet based composite flour in daily diet will enhance macronutrient as well as micronutrient level.

H_2: Nutritional content of finished products will be enhanced through the use of Jaggery (gur) / Dates (khajur) as compared to sugar-based product.

H_3: Techno-economically the finished product will be cost effective.

REVIEW OF LITERATURE

Iron deficiency is a major public health problem in developing countries, it affects up to 50% of infants, children, and women of child-bearing age in poorer populations of India. It has been established that fortified pearl millet flour seems to be satisfactory for fortification with zinc, and so can be exploited to address zinc deficiency (**Tripathi et al, 2011**).

Kodo millet is a nutritious grain and a good substitute to rice or wheat. The grain is composed of 11% of protein, providing 9 grams/100 g consumed. Little millet (Kutki) is a rich source of calcium (17mg/100g) and iron (9.3mg/100g). Thousands of women in Dindori (Madhya Pradesh) have taken up the task of reviving the cultivation of nutrient-rich Kodo and Kutki, thereby marking a noticeable shift from subsistence production to commercial agriculture in this tribal belt which is a home to indigenous groups like Baiga and Gond (**ICRISAT,2013**)

Today's fast-tracked lifestyle has led to the lack of proper nutrition and has increased the demand for Ready To Eat (RTE) fortified products. Breads, biscuits, and other RTE products now come packed with minerals and vitamins to increase their nutritional quality. Finger millet (Ragi) and Pearl millet (Bajra) flour can be incorporated in daily meal through biscuits, nan-khatai, chocolate, cheese, cakes, muffins, etc. Research findings have revealed that substitution of 40% wheat flour with Finger Millet flour in baked products like cake and biscuits is possible (**Begum et al., 2003; Yenagi et al., 2013**).

Most of the millets are grown in different regions of the world. The world's total production of millet grain was 8,55,000 metric tonnes and India ranked the top with a production of 3,54,500 tonnes in 2010 (**FAO, 2016**). Absence of appropriate primary processing technologies to prepare ready-to-use or ready-to-cook (RTC) products and also secondary as well as tertiary processing to prepare ready-to-eat value-added products have been the major limiting factors for their diversified food uses and better economic status (**Malleshi, 2014**). The major determinant in food choice is the growing consumer concern about nutrition and health nowadays according to **Nehir and Simsek (2012)**.

METHODOLOGY

1. Research Design: -The present research study is experimental in order to study the relationship between dependent and independent variables which are as follows

- Independent Variables :-
  i) Product type (*Puran poli* and *Ladoo*);
  ii) Mixed Millet flour:(kodo,kutki);
  iii) Defatted soy flour;
  iv) Sweeteners (Jaggery, khajur).
- The Dependent Variables:-
  i) Proximate Analysis;
  ii) Organoleptic/Sensory Evaluation,

  iii)Techno-economic Analysis.

2. Procurement and preparation of raw materials:-Kodo millet and Kutki millet were obtained through M.P. Vigyan Sabha from Patalkot area, Bhopal. These millets were de-husked and milled to get flour. The blanched soybean was dried in a tray and the dried soy-dal was milled. All other materials and ingredients were purchased from local market.

3. Product development:-Multigrain flour was prepared using the traditional milling and mixing method. The base of *Puranpoli* were prepared from the blends containing full fat soy flour and refined wheat flour and mixed millet flour made of Kudo and Kutki. For filling semolina was used by blending it with Khajur as sweetener. The flour of *Ladoo* was prepared from the blends containing 30% full fat soy flour; 70% refined wheat flour and mixed-millet flour. Jaggery was used as sweetener.

a) Formulation of Multi grain flour: Multigrain flour was formulated by the blend of 30% Full Fat soybean flour, 40% mixed millet flour and 30% Refined wheat flour. Equal quantity of Kodo and Kutki were taken to form "mixed millet flour". Therefore, the ratio of multigrain flour was 30:40:30 for 100gm flour mix to develop nutritious food products.

Constituent(per100g)	Full Fat Soyflour	Millets (40gm)		Refined Wheat Flour
		Kodo	Kutki	
Multigrain mix	30gm	20 gm	20gm	30gm

b) Preparation of multi-grain *Ladoo:*-The method for preparation of *Laddoo* with multigrain blend flour involves roasting of 250g of multigrain flour (Refined wheat flour (30%) and mixed millet flour -kudo (20%), kutki (20%) and soybean flour 30%) in small amount of ghee (15gms), adding the jaggery (50 gms) to this roasted mixture and making small balls as Ladoos.

c) Preparation of *Puranpoli* with multi-grain flour: The method for preparation of *Puranpoli* with multigrain blend flour is as follows.

Knead firm dough with 100 gms of multigrain flour using warm water. Keep it aside for 30 minutes. Divide the dough into 4 equal portions and keep aside. For filling take 40 gms deseeded and finely chopped dates (khajur), 10 gms of roasted and coarsely powdered sesame seeds (til) , mix both and keep aside.Roll out the dough in circle using a little whole wheat flour for help in rolling. Place a portion of the filling in the centre of the circle. Bring together all the sides in the centre and seal tightly. Lightly press the sides using one's fingers and roll out again into a circle using a little whole wheat flour as dusting. Heat a non-stick Tava and cook the Puranpoli with small amount of ghee till it turns golden brown in color from both the sides.

4. **Proximate composition of raw material and developed products**

The samples were analyzed for protein; fat, moisture content, carbohydrate and ash content using standard [AOAC, 1984] method.

5. Sensory evaluation of the consumers for developed products

Consumer's views towards *Puranpoli* and *Ladoo* were evaluated organoleptically for different quality attributes and overall acceptability. Sensory evaluation was performed using a panel consisting 50 untrained participants selected from nearby residential area of Annanagar of Bhopal city, including both male and female for the preference of developed nutritious food products .The ratings were done on a 5-point Hedonic scale. The mean of sensory scores for attributes *viz.* colour, flavour, taste and smell / odor and overall acceptability were recorded using following scoreing pattern.

5 = Excellent, 4 = Very good, 3 = Good, 2 = Fair, 1= Poor.

6. Dissemination of knowledge for development of new food products to empower women:- Women at household level/ SHG's/ NGO's/ entrepreneur/ and public at large were taken for dissemination of knowledge. The method for preparing these nutritious snacks was disseminated to the various SHG's/ NGO's/ entrepreneur/ especially for women empowerment and popularization of developed product.

The first phase of the dissemination process was carried out on selected women from *Anna Nagar* area from urban slum of Bhopal city. The economic profile of women and willingness to attend the training to start their own jobs at household level for production of nutritious products was identified. In the second phase training was given to empower women by preparing and selling a nutritious cost-effective functional food (*Puranpoli* and laddo) using locally available good raw materials, which is easily assimilated by the body and promotes growth and health.

7. Cost analysis: -Cost analysis was done for 12 ladoos prepared by using 300 gms of raw material and 4 puranpoli prepared with 150 gms of raw material. Cost of raw material was counted as per

actual market price of the day for the ingredients used. The cooked weight of Multigrain Ladoo and Puranpoli per portion was 25gms and 38gms respectively. Cost calculation includes cost of raw ingredients, gas, electricity, labor cost.

8. Statistical Analysis: -The data were analyzed using statistical software SPSS. Data was presented as mean value of three replicates ± Standard Deviation (SD) for each sample which was subjected to One-Way ANOVA. For comparison of means, significant difference was determined as $p<0.05$.

RESULT AND DISCUSSION

- **Proximate analysis of raw material:-**Data on proximate composition of millet (kodo & kutki) flour, refined wheat flour and full fat soy flour have been given in Table -1. It was observed that the fat content of full fat soy flour is four times that of kodo and kutki flour. Similarly, the protein content of full fat soy flour is about five times that of kodo and kutki flour.

Table 1: Proximate composition of Kodo & Kutki, refined Wheat flour and full fat Soy flour

Constituents (%)/100gms	Moisture content	Protein content	Fat content	Ash content	Carbohydrate content
Kodo flour	6.77	7.88	4.90	4.10	76.45
Kutki flour	7.69	8.29	5.10	5.40	73.52
Refined wheat flour	14.3	10.20	0.90	0.80	73.8
Full fat soy-flour	8.01	42.10	20.05	6.60	23.24

- **Nutritional Content of Ladoo and Puranpoli**

Prepared multigrain ladoo[a] and puranpoli[a] were evaluated for their nutritional content. Controlled sample [b] was collected from market for comparison of nutritional values. Controlled sample[b] of Aata ladoo prepared with sugar and puranpoli with refined wheat flour was evaluated against newly developed recipes.

Table-2 Nutrient content of the multi-grain *Ladoo*(300gms/12 pieces)

Nutrients	Nutritive value of multigrain ladoo	Mean Nutritive value /piece	
		Multigrain*Ladoo*[a]	Control *Ladoo*[b]
Energy (kcal)	1287	107.25	218.11
Protein (gm)	36.41	3.03	1.5
Carbohydrate (gm)	123.1	10.25	16.3
Fiber (gm)	14.4	1.2	0.3
Fat (gm)	49.49	4.1	8.1
Iron (mg)	33.6	2.8	1.2

Means followed by different letter (a,b) differ significantly at 5% level (β<0.05) in a same row

Table-3 Nutrient content of the multi-grain Puranpoli(150 gms/4 pieces)

Nutrients	Nutritive Value of Multigrain puranpoli	Mean Nutritive value / piece	
		Multigrain Puranpoli[a]	Controlled Puranpoli[b]
Energy (kcal)	780	195	291
Protein (gm)	23.6	5.9	2.3
Carbohydrate (gm)	158.8	39.7	60.0
Fat (gm)	20.8	5.2	6.5
Fibre (gm)	56.4	4.7	1.4
Iron (mg)	9.2	2.3	Nil

Means followed by different letter (a,b) differ significantly at 5% level (β<0.05) in a same row,

Table- 2 & 3 illustrate the effect on nutritive value of ladoo and puranpoli prepared with multigrain mix compared to the food products (ladoo and puranpoli) purchased from market as a controlled sample. The Protein (36.41g), iron (33.6mg) and fiber (14.4g) of 300g multigrain ladoo is significantly higher than the controlled sample. Likewise, the values of protein (23.6g), fiber (56.4g) and iron (9.2mg) was observed higher at 5% significant level in multigrain puranpoli compared with its controlled sample.

- **Consumers attribute and response through Sensory Analysis**

Out of 50 participants selected for sensory analysis for scoring of multigrain nutritious *Ladoo* and *Puranpoli* only 48 participants had filled the form correctly. Thus, the results of 48 participants are presented in table 4 and 5 for the developed product and it was found having good acceptability of puranpoli and ladoo. Therefore, these newly developed nutritious food products were finalized for dissemination of knowledge of preparation process through training programme for women empowerment.

Table-4. Sensory Evaluation and scoring of Multi-Grain *Ladoo* and *Puranpoli* (mean values)

S.No	Multigrain product	Color	Texture	Shape/Size	Taste	Sweetness
1	Ladoo	4.0±0.15	3.5±0.23	3.5±0.22	4.2±0.15	4.5±0.10
2	*Puranpoli*	3.5±0.25	4.0±0.30	3.0±0.10	4.5±0.15	4±0.20

*Data represented as Mean ± Standard Deviation; n=48
*Scores are based on; 5 = Excellent, 4 = Very good, 3 = Good, 2 = Fair, 1= Poor.

It can be observed that taste and aroma of multi grain *Ladoo* and *Puranpoli* scored very well and Color and texture were found accepted by 48 participants.

Table-5 .Consumers' Response for the Preference of Multigrain *Ladoo* and Puranpoli

Parameters	Frequency (n)	Percentage (%)
Age		
20-40 years	28	58
41-60 years	20	42
Gender		
Male	22	46
Female	26	54
Daily effort to include nutritious food in diet		
Yes	27	56
No	21	44

Table -5 provides details of survey results. Amongst them 48 participants, 58% were less than 40 years and 42% are above 40 years, 54% were females and 46% were male, out of 48 participants 56% reported making daily efforts to include nutritious fiber rich and less fat products in their diet.

- **Techno-Economic Feasibility:-**For the household production of ladoos and puranpoli, food ingredients were bought from the wholesale market to reduce the expenses and increase the profit.
- Total Cost of *Ladoo (12 pieces)*= 85 Rs
  Cost of one *Ladoo*= 7 Rs
- Total Cost of *Puranpoli* (4 Pieces)= 40 Rs.
  Cost of one *Puranpoli* = 10 Rs

Table -6 Economic profile of women selected for training (n=75)

Parameters	Frequency (n =75)	Percentage (%)
Occupation of husband		
Government Service	**37**	**49**
Private Service	**38**	**51**
Family Income per Month		
Low (Below Rs.25,000)	**51**	**68**
Middle (Rs. 25,000-35000)	**24**	**32**
High (Above Rs.35,000)	**-**	**-**
Occupation of Women		
Unemployed	**52**	**69**
Employed	**23**	**11**

Women opted for training		
Willing	**25**	**34**
Unwilling	**50**	**66**

Table -6 indicates that 75 women are purposively selected from Anna Nagar area of Bhopal city, out of which most of the women are unemployed (69%) and 68% are having low family income. Occupation of husband was government (49%) or private (51%) service sector. Family income was less than Rs.25,000 for maximum number of respondent (68%). Out of 75 women 25 were willing to attend training for enhancing their family income through selling of nutritious multigrain ready to eat (RTE) products. So, in the first phase of this study, 25 women were trained for preparing Soy and Millet based *Ladoo*and *Puranpoli* with Jaggery, Khajur ,Til.

CONCLUSION

It was found that the results for macronutrient and micronutrient level of multigrain *Ladoo* and *Puranpoli* was higher at 5% significant level than the control sample of ladoo and puranpoli purchased from the local market prepared with whole wheat flour, refined wheat flour and sugar. The developed product was found high in protein, low in carbohydrates with high iron and calcium level. This proves that the developed product has good functional properties which will help to combat malnutrition. It was also found that the product's selling cost was lower than the same product available in the market

A significant difference was determined at $p<0.05$ through one-way ANOVA, which shows a significant increase in fiber, protein and iron content of Multigrain Ladoo and Puranpoli. Therefore, the null hypothesis was rejected and alternate hypothesis accepted, which means the incorporation of multigrain flour blend in diet enhances the nutritional value, hence the hypothesis proves to be true.

Women empowerment is very essential aspect in India. In present study 75 women were selected from Anna Nagar area of Bhopal city, out of which 69% women were unemployed. Out of 75 selected only 34% (25) women showed willingness and were trained for preparation of multigrain *Ladoo* & *Puranpoli.* It was found that the women in that area were encouraged by this training and empowered to earn money.

Based on the results of study, it was observed that soy and millet grains contain many health-promoting components such as dietary fiber, minerals and vitamins. Multi-grain *Ladoo* and *Puranpoli* are the products providing variety of nutrients and can be recommended for all age groups as it has good biological value. The shelf life could be improved with use of less amount of fat. However, novel processing and preparation methods are needed to enhance the bioavailability of the micronutrients and to improve the quality of multigrain diets.

REFERENCE

- Begum J M, Vijayakumari, Begum S, Pandy A, Shivaleela H and Meenakumari (2003).
- https://www.icrisat.org2013 /forgotten-kodo-kutki-millets-on-a-comeback-trail-in-this-mp-tribal belt/
- Joint FAO/WHO Expert Committee on food additives, Sixty-ninth Meeting", World Health Organization, 2016
- Licker R, Johnston M, Foley JA, Barford C, Kucharik CJ, Monfreda C, Ramankutty N. 2010. Mind the gap: how do climate and agricultural management explain the 'yield gap' of croplands around the world, Pg19:769–82
- Malleshi NG (2014). Post-harvest processing of millets for value addition. Retrieved fromhttp://isites.harvard.edu /fs/docs/icb.topic868074.,
- Millets: Future of Food & Farming". Millet Network of India. (No date given, accessed November 13th 2013.) http://www.swaraj.org/shikshantar/millets.pdf
- Nambiar V.S, Sareen N, Daniel M and Gallego EB (2012). Flavonoids and phenolic acids from pearl millet (Pennisetumglaucum) based foods and their functional implications. Functional Foods in Health and Disease, 2(7): 251-264.
- Nehir El S and Simsek S (2012). Food technological applications for optimal nutrition: An Overview of opportunities for the Food Industry. Comprehensive Reviews in Food Science and Food Safety, 11: 1-11.
- Nutritional Composition And Sensory Profile Of Baked Products From Finger Millet. In: Recent
- Saleh ASM, Zhang Q, Chen J and Shen Q (2013). Millet Grains: Nutritional Quality, Processing, and Potential Health Benefits. Comprehensive Reviews in Food Science and Food Safety, 12: 281-295.
- Singh P, Raghuvanshi RS. (2012).*Finger millet for food and nutritional security. Afr J Food Sci**6**(4):77–84*
- Srilakshmi B (2007) Evaluation of Food Quality. In: Food Science, New Age International (P) Ltd, Publishers, New Delhi. 298p.
- Trends in Millet Processing and Utilization, CCS Hisar Agri. Univ., Hisar, India, pp: 82-87.
- Tripathi B, Platel K, Srinivasan K. (2012). Double fortification of sorghum (Sorghum bicolor L. Moench) and finger millet (Eleucinecoracana L. Gaertn) flours with iron and zinc. *J Cereal Sci*55**:**195–201.
- Yenagi N, Joshi R, Byadgi S and Josna B (2013). A hand book for school children: Importance of Millets in Daily Diets for Food and Nutrition Security. University of Agricultural Sciences, Dharwad, India, pp. 1-24.

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DEVELOPING SELF-COMPASSION IN ICDS ANGANWADIS: AN EXPLORATORY PROJECT

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ABSTRACT

An exploratory action project was designed to build capacities of Anganwadi workers and helpers and improve preschool components in Anganwadis under the Integrated Child Development Services (ICDS) scheme. Based on workshops with ten Anganwadi personnel from Umraya village, Padra, Vadodara about their emotional experiences during Anganwadi hours, a module of self-compassion was designed. Thismodule was implemented in four Anganwadis to examine if training in self-compassion and other mindfulness practices positively affected the well-being of Angandwadi Worker (AWW), Anganwadi Helper (AWH) and children enrolled there. Feedback on the module for overall effectiveness was sought from undergraduate students of the Department of Human Development and Family Studies, The Maharaja Sayajirao University of Baroda placed for fieldwork in the Anganwadi sand the participants. The project strongly recommends the sustained use of mindfulness practicesthat enhance self-compassion, a core element of intra and interpersonal well-being among Anganwadi personnel, leading to positive changes in the Anganwadi context.

Keywords: ICDS, Self-compassion, Mindfulness, Anganwadi, preschool.

INTRODUCTION

Integrated Child Development Services – ICDS

Under the National Policy for Children adopted by the Indian government in 1974, the Integrated Child Development Services (ICDS) program was launched across the nation in 1975. ICDS remains a flagship program of the Government of India representing one of the world's largest and unique interventions for providing non-formal preschool education and related services. ICDS is a laudable program that targets all basic components of human resource development: health, nutrition, and education. According to the Ministry of Women and Child Development (2015), there were total 13.42 lakh operational AnganWadi Centers (AWCs) across India in the year 2014-15.

Beneficiaries and Services of ICDS

In the ICDS scheme, children from 0-6 years, adolescent girls, pregnant and lactating women receive services including supplementary nutrition, non-formal pre-schooleducation, nutrition and health education, immunization, health check-ups, and referral services. Each AWC has one Anganwadi worker (AWW), one Anganwadi helper (AWH) and one community helper.

Roles of Anganwadi Worker

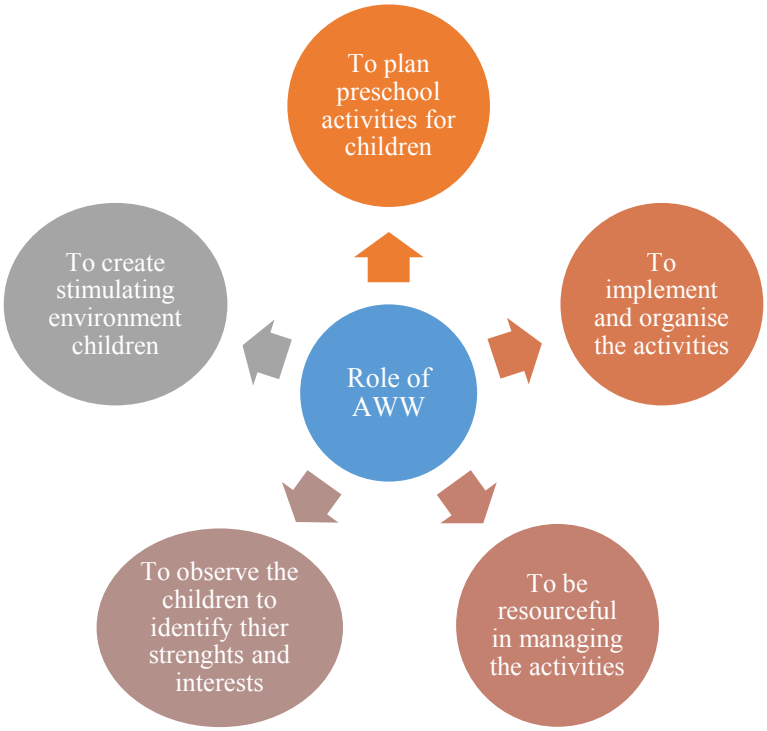

Figure 1 Role of AWW (NIPCCD,2006)

Along with planning, organizing and implementing preschool activities, it is important to identify children's capabilities and create a stimulating environment. Apart from educating young children, AWW is responsible for carrying out growth monitoring and maintaining recordsforeach child, providing supplementary feeding, distributing take home rations, treating minor illnesses and referring cases to medical centres whenever necessary. She is also expected to provide nutritional and health related advice to women and adolescent girls in the community.

AWH assists the AWW in her tasks. The main duties of AWH are to bring children to the AWC, to cook food for them, and help with the maintenance of the AWC. Anganwadi Supervisors are responsible for 20 to 25 AWCs depending on the nature of the project (tribal, rural, or urban).

Problems Faced By AWW/AWH

According to NIPCCD (2006), the attitude of AWW was target-oriented. Often they lacked motivation, as there was little acknowledgement of their work through pay or social recognition.The 12th five year plan identified that weak trainings were a major reason why AWW faced problem in delivering basic services to children. Similarly, Jena's (2013) study in Odisha with AWWs found that 43% were not happy because they were overworked. Similarly, 56.7% complained of inadequate salary against the kind of hard work they put in. This clearly indicates that well-being of AWW and AWH will impact quality of pre-school education provided to children. Given this situation, any AWW overloaded with responsibilities and lack of motivation would find it very difficult to contribute to the preschool components and teach children happily.It is important to ensure that Anganwadi personnel are calm and well-adjusted to their workplace for efficient delivery of services. Therefore, self-compassion and mindfulness practices were used to ensure well-being of Anganwadi personnel, improve interpersonal relationships, enhance gratitude and motivate them.

Self-Compassion and Mindfulness

Self-compassion simply represents compassion turned inward when having a difficult time, or to notice things one does not like about oneself (Neff & Dahm, 2015). It involves generating kindness toward ourselves as imperfect humans, and learning to be present with inevitable struggles of life with greater ease (Neff& Davidson, 2016). Mindfulnessis a core part of self-compassion. It entails being aware of present moment experiences in a clear and balanced manner (Brown & Ryan, 2003). Both of the elements complement each other. It can be said that mindfulness helps in becoming more self-compassionate because of awareness of feelings of compassion. A study onrelative importance of self-compassion and mindfulness found that both of these components were strong predictors of psychological well-being through practice of meditation (Baer, Lykins& Peters, 2012).There are different ways to teach mindfulness in relation to self-compassion to children in school settings. Mindfulness, as a practice, can be helpful for both teachers and children to pause from their work and home environment. Activities like 'art of listening' and 'nature walk' can be easily included in the curriculum, complementing other activities.

Observations and Experiences in Anganwadis: Impact on Well-being

The Department of Human Development and Family Studies, The Maharaja Sayajirao University of Baroda has been collaborating with Huntsman-BTEPL's CSR program since 2010 for student training in four Anganwadi settings in Umraya village, Padra, Vadodara. Huntsman-BTEPL's Anandi project plays a major role in ICDS, under which it states that CSR is not a onetime event but a continuous process.Every year 10-15 undergraduate students plan a developmentally appropriate program for children enrolled in the Anandi Anganwadis in Umraya village, Padra.Some recurrent issues like absenteeism, stress, demotivation, aggression towards children, and lack of self-management skills among AWW and AWH were observed.In spite of

exposure to numerous on-job trainings, AWWs were unable to reflect on their capacities and behaviours that might affect the well-being of children. This project was an intervention to provide opportunities for self-reflection to AWW and AWH. Based on their responses, it was felt that giving inputs in self-compassion at their workplace would positively affect their well-being and that of children.

The objectives of the action project were as follows.

- To identify the factors responsible for stress and well-being ofAWWs and AWHs
- Based on the identified factors,to develop and integrateactivities that promote self-compassion into theongoing program
- To evaluate the overall programfor efficacy

METHOD

The project follows a design similar to action research project. It is an approach to investigation that enables people to find effective solutions to problems they face in everyday lives. It does not look for generalizability but aims to solve complex issues in a social context (Stringer, 2013). Such a design was found to be more suitable for the Anganwadi context. The overall goal was to see if the module can be fully implemented and sustained in the Anganwadi setting. The project had three components.

A. Designing the module of self-compassion
B. Implementation of module
C. Evaluation and feedback

A. Designing the Module of Self-compassion

The module was designed for and implemented in four AWCs.A total of ten participants including 4 AWW, 4 AWH and 2Community Workers placed in the Anganwadis were included in the study. They were above 30 years of age with secondary and higher secondary education. The Third Year undergraduate students of the Department of HDFS were working since a semester in the setting as part of the department fieldwork program. This helped in easier access and monitoring to ensure sustained inputs in the program.

Focus Group Discussions

Two Focus Group Discussions (FGD) were conducted for one hour each with 10 participants including 4 AWW, 4 AWH and 2 community helpers. It contained questions which helped to build rapport with participants, to know their views on self-compassion in relation to their work with children and led to better understanding of their emotional experiences in the Anganwadi.

Figure 2. Themesderived from FGDs

From the FGD It was found that anger was experienced intensely by all the participants and the behaviour of others strongly influenced the amount of anger they experienced. Theyagreed that they needed to regulate their anger and change themselves. Their understanding of compassion was mainly in relation to others, likeshowing pity towards older people, or expressing love and kindness towards others. They had never thought about expressing kindness or compassion towards their own self. Although participants reported feeling peaceful and relaxed most of the time in the Anganwadi, they also reported that they often carried their bad mood from homes to the Anganwadi. Many a times, work in the AWC was experienced as an escape from worries related to their homes or families. They also shared that if they feel motivated, they will be able to work more efficiently. Importantly, self-compassion, self-love and self-motivation were never practiced or understood by the participants.

Thus, a need was felt to provide inputs to participants through 90 minute interactive training workshops. It was decided to give inputs first in managing one's anger followed by another workshop on self-compassion which included practices of self-awareness, self-love, and self-analysis.The last workshop was on self-motivation, cooperation and expressing gratitude. Each workshop included meditation and yoga exercises to promote mindfulness before proceeding to activities promoting self-compassion. The workshop plans were as follows.

Self-Compassion Module

Table 1. Activities before the Workshops

Activity	Aims	Description
"Anulomvilom pranayama"	*Concentration *Focus on breathing *Relaxation	All the participants were asked to close their eyes, sit in an erect manner with a mudra (position) that was needed to perform pranayama. This meditation was performed with deep breaths.
Mantra meditation	*Inner balance *Concentration and calm	They were asked to close their eyes, sit in an erect manner and with a mudra (position) to meditate the word "om" holding breathe for long period of time.
चिंताऐसीडाकिनी, काटीकलेजाखाय, वैदबिचाराक्याकरेकहातकदवालगाये. बहुतग□ोड़ीरहीव्याकुलमनमतहोई ,धीरजसबकामित्रहै, करीकमाईनखोई . दोषपरायेदेखिकेजा□हसंतहसंत, अपनेयादनआवी, जाकोआदिनअंत .	*Perspective taking *Critical thinking *Application in daily life	Discussions on selected Saakhis(wisdom couplets by SantKabir) were conducted for factors related to anger.

Theme 1: Anger Management

Table 2. Activities on Anger Management

Activity	Aims	Description
Walking with emotions	*Emotional expression *Self awareness	AWW/AWH were asked to walk in the room expressing different emotions.
Story (control on anger)	*Understanding and dealing with anger	A story on anger situation depicting father telling his son that anger is not good for self and others. In the end, participants were asked questions about characters being right/wrong and their learning from story.

Express your anger	Problem solving Self reflection Acceptance of anger as an emotion	To write out one's own feelings and brainstorm ways to reduce anger. Answer questions- • What has caused you to be angry? • How do you feel in such situation? Why does the situation make you angry?
Group Game: *"gussanitolimanaavsepyaarnitoli"* (Angry team will convince the Love team)	Team work Fun Problem solving Collective self awareness	The game has to be played in pairs where one belongs to *gussanitoli* (angry team) and another from *pyaarnitoli* (love team). Initially the ones who tend to be showing more anger are in Love team where they have to show love and make the opposite person lower their anger and become happy. Context-appropriate situations were given.

Theme 2: Self-Compassion

Table 3 Activities on Self-compassion

Activity	Aims	Description
How do you typically react to life's difficulties?	*Sharing *Critical thinking	This was in a form of discussion where everyone was asked to answer questions like: • What type of things you typically judge about yourself? • What are the consequences of being so hard on yourself? • How do you treat yourself when you run into challenges of your life? • Have you truly loved and accepted your flaws? If yes, then how?
Dramatization on mindful and stressful situation.	*Mindfulness practice *Self awareness *Practice the pause	A skit was performed by the students based on the situations in which AWW/AWH had problems. They performed the same situation in both stressful and mindful manner. The situations were: • Behavior towards children- Having a fight with husband, having a bad start to the day and coming to Anganwadi • A surprise visit of supervisor in the anganawadi affecting the mood of

		AWW/AWH.
Taking care of yourself (beyond physical care)	*Understand self-care holistically	Discussionsabout" ways in which youcan take care of yourself beyond physical care" were held.
Seeing yourself through the eyes of your beloved in flow of soft music	*Feeling self love	Soft music was being played in the background where one had to visualise loving object to feel loved

Theme 3: Gratitude, Motivation and Mindfulness

Table 4. Activities on Gratitude, Motivation and Self-love

Activity	Aims	Description
"*Chinta no kuvo*"- well of worries	*Identifying worries *Building positive attitude in facing problems	They were first asked to think about their worries in different spheres like home, Anganwadi, health, family or related to wealth. Then each student paired up with each AWW/AWH and would whisper their worries one by one and throw it into imaginary well. Any one person would keep count on how much worry each had thrown in the well. The one with more number of worries will have more happiness score and win the game. After game was played, there was a discussion about how they felt after symbolically discarding their worries.
Prepare your own mindful timetable	*Time management *Mindfulness	All the AWW/AWH were asked about their daily schedule. The facilitator created times during day or night to suggest times for practicing mindfulness or self-love.
Practice the pause	*Inculcating slowness *Patience *Self-regulation	The pause can be practiced in different forms. It can be in a form of race where the person who completes the race slowest wins the game. Another form is to perform steps of dance in the slowest manner and lastly utter sentences slowly. The doer will realize how mindfully one can perform when the tasks are done slowly versus when done in a hurried manner

Gratitude letter	*Inculcating gratitude	A situation was given to AWW/AWH to imagine if either AWW/AWH was absent for a day and the other had to do all the work. On the next day, thank her for all the work she did through a letter.
A collage and thank you cards as a gift for motivation	*Acknowledgement *Motivation *Gratitude	A collage of their pictures in the Anganwadi and thank you cards were gifted to them. Pictures were clicked to motivate about their contribution in running the Anganwadis effectively.

Every workshop ended with simple breathing exercises, meditation, chanting happy quotes and group hugs.

FINDINGS

Experiences and Feedback

- All participants found anger management activities and new techniques to reduce or avoid anger to be very useful.
- Meditation was practiced by many participants at home and in the AWCs after the workshops were conducted. Thus, participants were able to sustain meditation practice and avail benefits for a longer time.
- They felt more self-aware after workshops and agreed not to use anger in Anganwadi. They also agreed that supervisors' presence must not disturb them or affect their behavior with children.
- Regular workshop experiences may help in sustaining these mindfulness practices

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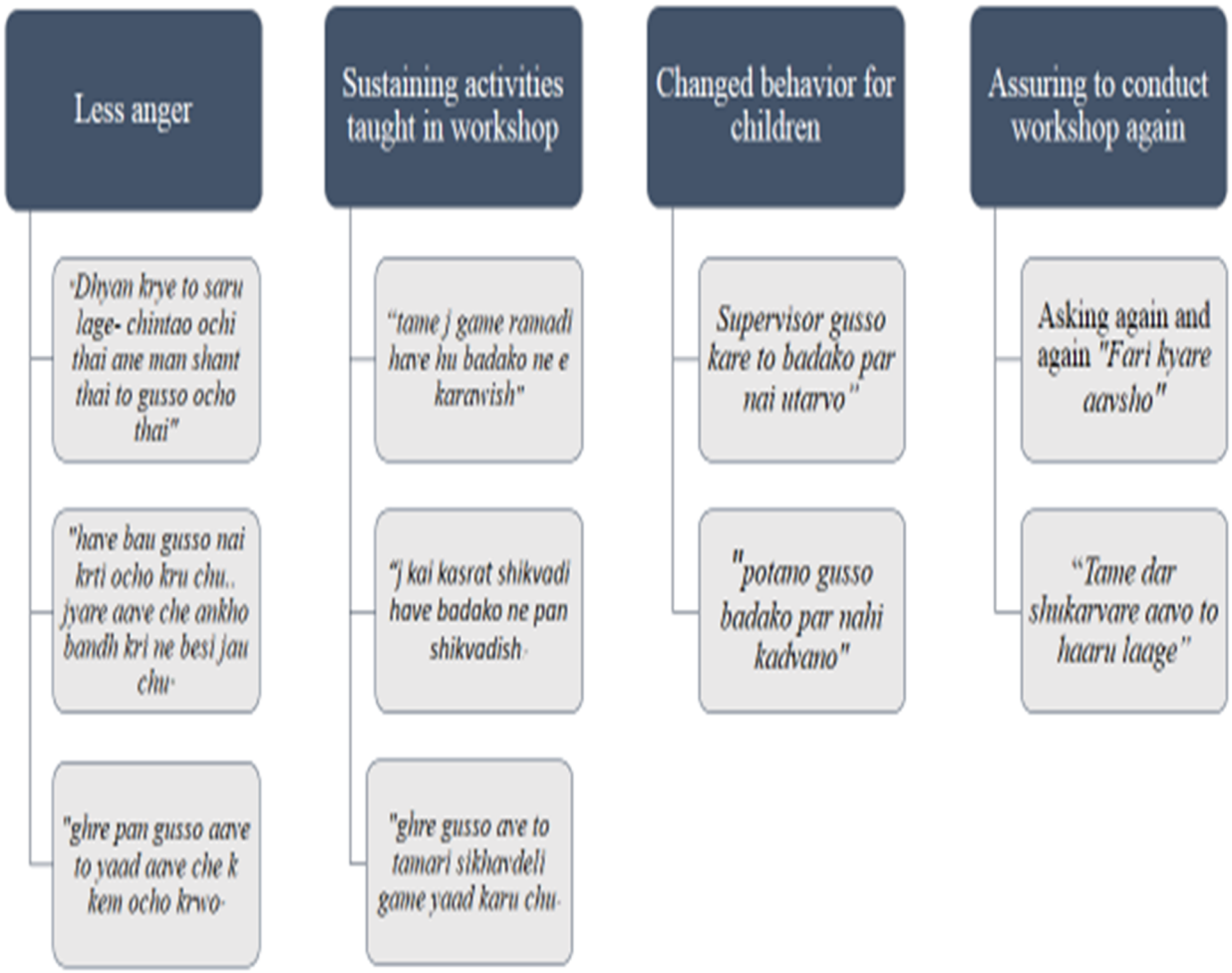

Figure 3 AWW/AWH's experiences and feedback on workshop (expressions written in Gujarati)

Feedback through Students Reports

Third Year undergraduatestudents placed in the Anganwadis observed some changes in the behaviour of AWW/AWH towards each other as well as towards children and documentedthese in their reports. Sevenstudent reports were analysed qualitatively.The reports reflected that during the initial phases of introducing these exercises, AWW/AWH were not confident whether such a plan will be successful. But after implementing the program for two more weeks, some positive changes were observed.Incidence ofscolding and hitting children had reduced. The attitude of adults and children was more loving and children could sit quietly for a longer time. Thus, it was clear that over a time introduction of mindful practices can make a positive difference.

From the overall observations, the researchers documented case studies to contextualize the lives of AWW/AWH and document changes in their approach to work. For example, Urmila ben, AWW is 32 years old and her family faces poor financial conditions. She often gets angry at her circumstances because of the constant financial stress and abuse by her mother-in-law. There are times when the AWH takes leave and Urmila ben's workincreases. She defines anger as a necessary emotion that one cannot neglect in daily life. However, in the midst of these conditions, she finds peace working with children in the Anganwadi, It provides an escape into a different environment from home. She confessed that on very stressful days she may have projected her anger on children sometimes. But after participating in the workshops, she realized that it was possible for her to be patient and regulate her anger.Importantly, she understood that anger was bad for her and others around her. She promised to sit and meditate regularly now. In the last workshop she said, *"I never thought little things like a hug and meditation could help us solve such major issues in our life"*. After program implementation, she said *"Regular self-loving practices have reduced my anger and I hardly shout at children now. Yes, I feel calmer and loving towards children...I am so thankful, I know the difference in my behaviour now."*

After the feedback, a unique program integrating self-compassion and mindfulness activities was created for implementation with children in the Anganwadis. It could be incorporated with any ongoing conceptual theme in the preschool curriculum (for example, plants, vehicles, self and family, community workers etc.). Activities like mindful nature walk, compassionate heart, grow a compassionate plant were included. Students from the Department made the program in consultation with the researchers and the Anganwadi workers.

CONCLUSION

To sum up, the results of action project reflected the importance and need for self-compassion for Anganwadi personnel and in relation to others in their immediate context. Workshop experiences indicated that mindfulness and self-compassion training workshops can bring positive changes in the Anganwadi context. Simple activities like meditation, nature walk, 'practice the pause' were very effective in reducing anger in individuals. Anganwadican become a happy-mindful and nonviolent place for adults and children. Along with increase in pay or reducing the AWW/AWH's workload, steps should be taken at the policy level to include training in small-scale mindfulness and self-compassion programs for Anganwadi personnel. Thiswill contribute to better implementation of preschool components in the ICDS program and ensure holistic development of each child coming to the Anganwadi.

REFERENCES

- Baer, R. A., Lykins, E. L., & Peters, J. R. (2012). Mindfulness and self-compassion as predictors of psychological wellbeing in long-term meditators and matched no meditators. *The Journal of Positive Psychology*, *7*(3), 230-238.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84 (4)*, 822-848.
- Jena, P. (2013). *Knowledge of Anganwadi Worker about Integrated Child Development Services (ICDS): A Study of Urban Blocks in Sundargarh District of Odisha*. Unpublished Masters' Dissertation. Rourkela, Odisha: National Institute of Technology.
- Ministry of Women and Child Development (MWCD), Government of India (2015). *Annual Report 2014-15.* Retrieved from: Ministry of Women and Child development website: http://wcd.nic.in/sites/default/files/AR2014-15.pdf
- National Institute of Public Cooperation and Child Development (NIPCCD), Government of India (2006). *Three decades of ICDS- An executive summary 2006.* Retrieved from: http://icds-wcd.nic.in/icds/mon/3dicds.htm.
- Neff, K. D. & Davidson, O. (2016). Self-compassion: Embracing suffering with kindness. In I. Ivtzan& T. Lomas (Eds.), *Mindfulness in Positive Psychology: The Science of Meditation and Well-Being (pp. 37-50)*. London, UK: Routledge.
- Neff, K. D., &Dahm, K. A. (2015). Self-compassion: What it is, what it does, and how it relates to mindfulness. In B. D. Ostafin, M. D. Robinson, & B. P. Meier (Eds.), *Handbook of Mindfulness and Self-regulation (pp. 121–137)*. Springer Science + Business Media. https://doi.org/10.1007/978-1-4939-2263-5_10
- Stringer, E. T. (2013). *Action research*. Sage Publications.

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IS SENSITIZING YOUNG CHILDREN ON GENDER DESIRABLE? PERSPECTIVES OF EARLY CHILDHOOD EDUCATORS AND PARENTS FROM MEERUT CITY, INDIA

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ABSTRACT

Sensitizing young children on gender promotes the rights of children, advance gender equality and may break the cycle of gender discrimination. This qualitative study explored pre-school teachers' and parents' perspectives on gender and its inclusion in the early childhood education curriculum. Using interpretive framework, 10 teachers and 10 parents from a private pre-school in the Meerut city were selected purposively and interviewed based on a semi-structured interview guide. Additionally, researchers also analyzed the gender-sensitive content of the syllabi of early childhood education, classroom and teaching-learning materials using the self-constructed checklist. Data were treated with thematic content analysis to identify key themes and categories. Teachers perceived that introduction of gender in ECE is inappropriate; most of the parents shared that children learn gender as they grow up, hence, no need to sensitize so young children on gender. Neither course outline nor classroom and teaching-learning materials were gender-sensitive. Integrating gender in the education and training agenda for pre-school educators may provide children with more equitable teaching and learning experiences.

Keywords: Gender-responsive preschool curriculum, early childhood education, preschool teachers, parents, India

INTRODUCTION

Early childhood is a crucial phase for a child's cognitive, social, language, physical and emotional development (Jalongo et al, 2000; Datta, 2001). Experiences in early years set pathways for learning and development (Mustard, 2006). Evidence indicates that an integrated, intensive and quality Early Childhood Care and Education (ECCE) interventions are effective in promoting child development and prevent the loss of young children's development potential (National Research Council, 2001; Srivastava and Yadav, 2013; Singh, 2016) .This is the period when children learn to "socialise" as well as learn gendered norms, roles and attitudes primarily from parents, caregivers, other family members and teachers (Kilsby, 2014).

Gender socialisation starts immediately after birth and continues in subtle and overt ways (UNICEF, 2007; Halim, & Ruble, 2010; Culhane & Bazeley, 2019). By the age of two, most children become conscious of their social gender (Martin, & Ruble, 2004), and by the time children

reach the end of infant school, they have already developed a clear sense of what is expected of boys and girls and how they are supposed to behave (Kilsby, 2014; Bian, Leslie & Cimpian, 2017). Children observe and absorb the words and actions of those around them, what they see in the environment around them and the wider world (Best, 2004; MWCD, 2013; Leaper, 2014). These include messages about socially prescribed gender roles (Best,2004; Friedman, et al , 2007; Leaper, 2014). Such binary gender norms don't provide scope for acceptance of those with alternate gender identities –for example, transgender; queer etc. (Bauer, et al, 2017). Learning these rules and expectations in terms of binary stereotyped gender norms, behaviours and roles can limit opportunities and outcomes for both boys and girls from childhood and throughout their lives (Kilsby, 2014).

Affirmative actions are needed to sensitize children on gender which may foster more flexible gender roles in children to help them develop a broader repertoire of socio emotional and cognitive skills. In this direction, the present study sought to understand the following:

AIMS

*To understand the beliefs of parents and early childhood educators around gender, gender roles, gender expectations; early childhood educators' perception on gender competencies in childcare;

*To study whether early childhood curriculum, teaching-learning materials and classrooms are gender-sensitive.

*To assess the parents' and early childhood educator's perspective on sensitizing young children regarding gender.

METHODOLOGY

The present research was an action research which aims to generate wiser practice by producing new and deeper thinking about social practices (Naughton & Hugher, 2009). An interpretative paradigm (Angen, 2000) was adopted to understand the experiences and perception of early childhood teachers as well as parents on gender.

Participants

Participants were selected through purposive random sampling. Participants' included teachers and parents of the children of early childhood education program from a well-known private school in Meerut. Meerut is a North Indian city, which is approximately 90 km away from Delhi and is substantially influenced by the fast pace socio-economic changes of Delhi.

Tools

Semi-structured interview guide for educators and parents (of children 3-6 years of age) were developed which focused on meaning of gender and perspectives on including gender in the ECE curriculum. Based on the National Council of Educational Research and Training (NCERT) guideline, curriculum checklist to review the ECE curriculum and observation checklist was

prepared for nursery to upper kindergarten for observing classroom management for gender sensitivity.

Procedure

Appropriate approval from the school management and consent from all the participants was taken. The early childhood program in school was termed as Early Years Program (EYP) that having pre-nursery (2-3 years), early childhood I (3-4 years), early childhood II (4-5 Years) and Kindergarten; (5-6 Years). The school offers a modern facility and cater to the middle to a high socio-economic group of the town. Interviews were audio-recorded and transcribed further. All educators were interviewed while two fathers and two mothers from each class of EYP were randomly selected who voluntarily agreed to participate in the research. Data were analysed using a constant comparative approach of organizing data with continual adjustment was used. Thematic analysis was done for pulling out the major themes of the data.

FINDINGS AND DISCUSSION

All early childhood educators in the study were women. The mean age of the educators was 27.5 years. Most educators had bachelors in education (B.Ed.) degree while two educators had specialization in early childhood education. One educator was from engineering background without a B.Ed. degree. Majority of educators had more than 5 years of experience in early childhood education; however, only four educators had training on early childhood education. (Table 1) All educators had received training on classroom management, soft-skills from the School.

Table 1: Demographic Profile of the Early Childhood Educators (N=10)

Age (years)			Education					Experience			Training on Early Childhood Education received	
23-27	28-32	33-38	B.Tech.	B.Com., B.Ed.	B.A. B.Ed.	M.A., M.Ed.	M.Com., B.Ed.	2 years	3-9 years	10-13 years	Yes	No
6	2	2	1	1	2	2	2	1	7	2	4	6
10			**10**					**10**			**10**	

Total 16 parents of children studying in early years programme were randomly contacted telephonically. Those who agreed to volunteer were interviewed. The average age of mothers was 28.2 and 31.2 for fathers (Table 2). One half of the mothers (4) were in the service while 2 were business partners and rest 2 were home-makers. Most fathers (6) had the business while 2 were serving in the service sector. Average monthly income was INR 69,312/-

Table 2: Demographic Profile of the Parents

Age		**Parents**		**Education**		**Occupation**			**Income**		
26-30	31-35	Father	Mother	Graduate	Post-graduate	Home-maker	Service	Business	35000-50000	51000-80000	81000-150000
9	7	8	8	10	6	2	6	8	3	9	4
16		**16**		**16**		**16**			**16**		

Perception of gender among Educators

Educators viewed 'gender' as a biological construct. They mentioned that 'gender is the difference between male and female and have behavioural characteristics of masculine and feminine.'

Based on the gender, roles and responsibilities are expected in the society, for example, "…men earn and protect the family while women take care of the home and nurture children." Most educators believed that 'gender is innate and cannot be changed'. However, 'societal norms and rituals about women are restrictive that need to be changed'. All educators shared that 'they attempt to treat both boys and girls equally'.

Perception of gender among parents

Mothers had perceived gender as a biological construct with one exception. A mother expressed, "gender is societal; it is a performance of expected roles of each gender prescribed by society. Failing to perform a particular role is not valued in society." Another mother shared a stereotyped conception of gender, "A girl is destined to get married, do household chores, and raise children, whereas, a boy is considered a money-maker; who is dominant and harsh. Otherwise, we say to men, "chudiyan pehen rakhi hai" (wore bangles – like women?)." One more mother provided an equalitarian concept of gender. She stated, "Men and women are different but complementary to each other. Men are physically strong whereas women are emotionally strong. Neither men are superior nor women are inferior but society provides more importance to men as compared to women, which is changing gradually." Most mothers of girl child shared that they attempt to raise their girls as equal to boys.

Fathers perceived gender as a difference between male and female determined at birth. Most of them narrated their role in parenting a child as supporter, protector and 'remain available'. Most fathers perceived that 'overall responsibility of child-rearing is mothers' job.

Reinforcing gender stereotypes

Both educators and parents showed stereotyped notions of gender that influence children. Parents subtly or overtly reinforce gender stereotypes. Parents of young girls were more comfortable with the idea of them engaging in masculine-typed play, such as playing with cars and wrestlers, whereas parents of young boys were uncomfortable in regard to their sons' participation in feminine-typed play, such as, playing with dolls and kitchen sets. More mothers were comfortable with the idea of their child acting in opposition to gender stereotypes than fathers, for example, more mothers than fathers were comfortable with the idea of their young sons crying when feeling sad.

Educators ensure gender equality in the classroom by adhering to the pre-school curriculum, allowing children to play with the opposite gender, and not imposing any discrimination based on gender. Although researchers had noted gender-neutral toys like blocks, activity cubes, slides, baby horse rider, wooden shapes, and alphabet shapes in the pre-school, early childhood curriculum of the early years' programme and toys were primarily gendered. Moreover, major teaching-learning materials were also not gender-neutral. Importantly researchers witnessed an interaction between a boy, educator and a helper which was stereotyped. Researcher observed during the data collection in one of the school how a helper and a teacher were interacting with a young boy approximately four years old. Both of them were telling him to cut his hair short length. While the child expressed disinterest, they probed him if they shall tie his hair and prodded, they said, "Do you want to be a girl? Only girls keep long hair, not boys". This reflects how educators subtly reinforce gender stereotypes.

Sensitizing young children on Gender

Participants, both early childhood educators and parents, held not so positive attitudes towards sensitizing young children on gender and revealed social and cultural contextual barriers to its practice. Most parents (14) agreed that it is important to treat boys and girls as the same in the early years. But only a few (2) agreed with the idea of sensitizing young children on gender. Two mothers said that teaching gender is important. Children should be taught gender equality and be allowed to explore their potential irrespective of their gender. This perspective is very well captured in the following excerpt of one of the mother.

> "It is essential to help children realize that both boys and girls are equal. Both have the equal capability and potential to be successful in all sphere of life..."

Another mother said,

> "It [gender equality] teaches them [young children] to be accepting and understanding of people's different perceptions of who they are as a gender, what they like…children should be taught at an early age about this. They should not be exposed to the belief that women are the homemaker and their role is to cook for others. Rather they should be sensitized that both men and

> women can do wonders in life and contribute to society…give examples of successful women and men...not just give examples of successful men."

Arguably, most parents voiced that children are too young to introduce such complex concepts. Educators echoed a similar perspective. They attributed primary reasons for not sensitizing young children on gender too early, as, they perceived additional burden to them and children, and parents' probable unwillingness to educate children on gender. Educators believed the right age for sensitizing children on gender is from grade 1 (7 years of age) onwards which is reflected in following excerpts from an early childhood educator,

> "Children are too small to understand gender. We can only teach them to respect girls... sensitize them about good and bad touch…in my eight years of experience, I have realized that they cannot comprehend concepts of gender equality and we should not burden them..."

In contrast, few educators (2) opined that young children should be sensitized on gender. Following verbatim of an educator echoed the same spirit:

> "Absolutely [it should be a part of the curriculum]. Early years are critical phase for learning and development. Sensitizing them [young children] on gender in this formative age would make them sensitive and learn respectful behaviours towards others."

Another educator indicated that children should be educated about the gender difference and what boys/girls should do and shouldn't do. Early childhood education practice is rooted in educators' and parents' implicit collective beliefs on gender that are influenced by socio-cultural discourses.

Discussion

The foundation of the male-female polarity is set early in childhood. As the child's own understanding of being a boy or a girl develops and the child begins connecting different behavioural expectations with each gender (Martin, 2010). This process can start forming right from birth as children learn stereotypes from their environment and the ways they are socialized by parents, other family members, teachers and peers (Siraj-Blatchford and Clarke, 2000). The majority of children use the gender labels girl or boy before they are two years old (Zosuls, et al, 2013).

While this study found that the majority of parents and educators indicated girls and boys to be treated equally in the early years, and few also want to challenge the restrictive gender stereotypes, it also submits that same parents and educators subtly reinforce gender stereotypes with children in ways they may not be aware of. For example, parents' responses to the questions about their level of comfort with boys and girls engaging in specific kinds of play, and their attitudes and responses towards girls and boys crying when they feel sad, suggests a level of adherence to the idea that certain activities and certain ways of expressing emotion are more "gender appropriate" than others. Also, educator and a helpers' interaction with a young boy

regarding keeping short-hair to be like a boy indicates certain appearance is more "gender appropriate."This finding is consistent with research that shows, even when they are not overtly expressing them, parents may subtly reinforce gender stereotypes (Leaper, 2014), and may not be aware that they are treating girls and boys differently (Raley & Bianchi, 2006).

Role of parents and early childhood educators

Educators, parents and children alike are immersed in a social and cultural environment that produces and perpetuates gender stereotypes. Others including family members communicate messages, explicitly as well as implicitly, about what is considered "appropriate" for girls and boys. Research confirms that families, and in particular parents, are young children's first and primary source of learning about gender followed by early childhood educators (Kilsby, 2014; Leaper, 2014; Our Watch, 2018).

Role of parents

As the foundations for gender-stereotypical beliefs and behaviours are created in early childhood, parents can play a key role in supporting their children's ability to freely and fully determine their own interests and preferences, regardless of gender or social expectations.

Parents can challenge gender-stereotypes by being more aware of how they unintentionally and subtly reinforce gender stereotypes and by modelling gender equality and respect in their own relationships (Our Watch, 2018).

Role of early childhood educators

Early childhood educators need to be alert that during classroom sessions or play children can enact rigid gender roles. Children negotiate the messages they receive about gender and make decisions in order to develop their own gender identity (MacNaughton, 2000). Educators can play an essential role in this process by challenging gender stereotypes. Importantly, educators need be aware of the "hidden curriculum" (Kelly, 2009, p.10) in the classroom, which communicates meaning to children through the way the school is organised and the type of resource materials provided. All arrangements and displays made for children reflect the attitudes and values of the educators or helpers who make them and have a profound effect on children's understanding of acceptable social and gender roles (Kelly, 2009). In order to avoid any hidden curriculum messages, educators need to examine not only the materials offered to the children but the language used with them, to observe closely and determine what changes need to be made, if one gender dominates an area or some toys are used only in stereotypical ways (Martin, 2011).

The NCERT's pre-school curriculum 2019 points out the importance of ensuring and encouraging gender equality (NCERT, 2019, p.8), by offering children the opportunities to explore the gender boundaries with educators supporting all children to both explore and exhibit caring behaviours. Siolta (Centre for Early Childhood Development & Education, 2007) acknowledges the need not only to encourage children to explore gender boundaries but also to challenge gender stereotypes and respond appropriately to any biased behaviour. The Diversity, Equality and Inclusion Charter and Guidelines for Early Childhood Care and Education (DCYA, 2016) also encourages educators to explore gender actively in their pre-school settings, and to offer children non-stereotypical materials. It emphasises the need for educators to reflect on their own unconscious gender beliefs hrough an extensive list of critical questions to consider.

Gender-responsive ECE Curriculum

NCERT's pre-school curriculum framework recognized preschool as a better place to break the gender stereotypes (NCERT, 2019, p. 8). The findings indicated a belief amongst the group of practitioners that gender is either innate or learned and that EYPs plays no role in its development. Chapman (2016) highlighted that educators are less likely to challenge children's understanding of gender if they believe it is the result of biological differences. Therefore, the need to sensitize educators' as well as parents on gender is essential to foster more flexible gender roles in children and demonstrate caring behaviours to non-traditional gender expression and roles.

Strategies to challenge gender-stereotypes

Proposed strategic solutions include infusion of gender-responsive education training of early childhood educators, shift dominant child-centred approach to early education and challenge traditional gender inequalities and practices (Warin, & Adriany, 2017). Participation of educators and parents in the preparation of courses or programmes or policy development would be valuable for considering diverse perspectives. Furthermore, continuing education programmes on gender-responsive early childhood education curriculum, gender-neutral teaching-learning materials, advocacy, and research orientation would enhance educators' skills and practice. Promoting documentation of best-practice of the gender-responsive ECE can create healthy competition and opportunities to learn and share amongst private and public early childhood educators. Workshops for gender-neutral parenting for parents would be valuable.

LIMITATIONS OF THE STUDY

The study had several limitations. First, most research participants in the study were women (teachers and parents). Further, the findings provide insight but results cannot be generalized due to small sample. The study may serve as a springboard for future studies on gender-responsive ECE. Further studies on understanding existing best-practice models of "Gender-responsive ECCE Curriculum" in private pre-schools in India would provide more insight into the process of designing, implementation and its outcomes.

CONCLUSIONS

Both educators and parents lack adequate understanding of the gender and importance of sensitizing young children on gender. They held not so positive attitudes towards sensitizing young children about gender. Gender-responsive ECE training curriculum would enhance not only quality ECE practice but also could provide children with more equitable teaching and learning experiences.

The period of early childhood provides a significant window of opportunity to challenge traditional gender-norm and develop respectful and caring behaviours towards gender expression and gender preferences. Supporting early childhood educators and parents to challenge gender stereotypes and promote equality for children can help to create a society that provides the range of experiences and opportunities for boys and girls, in which they can grow up being free without limitations to explore and be whoever they want to be.

IMPLICATIONS FOR PRIMARY PREVENTION OF VIOLENCE

The study suggests that there is a positive role for early childhood education experts, practitioners and researchers to play in supporting early childhood educators (and parents of young children) to practice gender-equality for both to support educators and parents' aspirations of gender equality and help challenge the rigid and harmful gender stereotypes that drive violence.

REFERENCES

- Angen, M. J. (2000). Evaluating interpretive inquiry: Reviewing the validity debate and opening the dialogue. *Qualitative Health Research,* 10(3), 378-395.
- Bauer, G. R., Braimoh, J., Scheim, A. I., & Dharma, C. (2017). Transgender-inclusive measures of sex/gender for population surveys: Mixed-methods evaluation and recommendations. *PloS one*, *12*(5), e0178043. doi:10.1371/journal.pone.0178043
- Best, D.L.(2004). Gender roles in childhood and adolescence. In Gielen UP, Roopnarine JL, eds. *Childhood and adolescence in cross-cultural perspective.* Westport, CT: Greenwood; 2004:199-228.
- Bian, Leslie, & Cimpian (2017). Gender stereotypes about intellectual ability emerge early and influence children's interests. *Science*, 355(6323), pp 389-391
- Department of Children and Youth Affairs. (2016). *Diversity, Equality and Inclusion Charter and Guidelines for Early Childhood Care and Education*. Dublin: Government Publications.
- Dutta, V. (2001). Measurement and regulation of quality in early childhood programs, paper presented at the *National Workshop on 'Strategies for Improving Quality in Early Childhood Programs'*, August, M. S. Swaminathan Research Foundation, Chennai.
- Friedman, C.K., Leaper, C., Bigler, R.S. (2007). Do mothers' gender-related attitudes or comments predict young children's gender beliefs? *Parenting: Science and Practice.*7, 357-366.
- Halim, M. L. & Ruble, D. (2010). Gender identity and stereotyping in early and middle childhood. In J.C. Chrisler, D.R. McCreary (eds.), Handbook of Gender Research in Psychology, Springer Science: New York.
- Jalongo, M.R., Hoot, J.L., Pattnaik, J., Cai, W., & Park, S. (2000). Early childhood programs:
- International perspectives. In P. Isenberg & M.R. Jalongo (Eds.), *Major trends and issues in early childhood education: challenges, controversies and insights.* New York: TeachersCollege.
- Kilsby, D. (2014). Synthesis report: Research into gender in ECCD in six countries. Plan International. Retrieved from https://plan-international.org/publications/synthesis-report-gender-eccd-6-countries#download-options
- Koenig A. M. (2018). Comparing prescriptive and descriptive gender stereotypes about children, adults, and the elderly. *Frontiers in Psychology*, 9, 1086.

- Leaper, C. (2014). Parents' socialization of gender in children. In: Tremblay, R.E, Boivin, M., Peters RDeV, eds. Encyclopedia on Early Childhood Development [online]. http://www.child-encyclopedia.com/gender-early-socialization/according-experts/parents-socialization-gender-children. Published August 2014. Accessed December 15, 2019.
- Martin, C. L., & Ruble, D. N. (2010). Patterns of gender development. *Annual Review of Psychology*, 61, 353–381.
- Martin, C. L., & Ruble, D. N.(2004) Children's search for gender cues: Cognitive perspectives on gender development. *Current Directions in Psychological Science*, 13(2), pp. 67-70.
- Ministry of Women and Child Development, (2013), National Early Childhood Care and Education Policy, New Delhi. Ministry of Women and Child Development, Government of India. Retrieved from hhttp://wcd.nic.in/sites/default/files/National%20Early%20Childhood%20Care%20and%20Education-Resolution.pdf
- Mustard, J. F. (2006), Early child development and experience-based brain development: The scientific underpinnings of the importance of early child development in a globalised world. *Paediatrics and Child Health, 11*, 571-572.
- NCERT (2019). Pre-school curriculum, Retrieved from http://www.ncert.nic.in/pdf_files/preschool_curriculum.pdf
- National Research Council, (2001). *Eager to learn: educating our preschoolers.* Washington,
- DC: National Academy Press.
- Naughton, G. M., & Hugher, P. (2009). Doing action research in early childhood studies: A step by step guide. New York: Mc Graw Hills.
- Our Watch (2018). Challenging gender stereotypes in the early years: the power of parents. Melbourne, Australia: Our Watch.
- Raley, S. & Bianchi, S. (2006). Sons, Daughters, and Family Processes: Does Gender of Children Matter? *Annual Review of Sociology*, 32(1), 401- 421.
- Shafer, E. & Malhotra, N. (2011). The effect of a child's sex on support for traditional gender roles. *Social Forces,* 90(1), 209-222. Retrieved from http://muse.jhu.edu/article/464022/pdf
- Siraj-Blatchford, I., and Clarke, P. (2000). *Supporting Identity, Diversity and Language in the Early Years*. Maidenhead: Open University Press.
- Singh, J. D. (2016). Inclusive education in India–concept, need and challenges. *Scholarly Research Journal for Humanity Science & English Language,* 3, 3222-3232.
- Srivastava, G. & Yadav, M. (2013), Training material for teacher educators on gender equality and empowerment, Vol. II, NCERT: New Delhi.
- UNICEF (n.d.) Early gender socialization. Retrieved from https://www.unicef.org/earlychildhood/index_40749.html
- Warin, J. & Adriany, V. (2017). Gender flexible pedagogy in early childhood education. *Journal of Gender Studies,* 26 (4), 375-386.
- Webster, K., Pennay, P., Bricknall, R., Diemer, K., Flood, M., Powell, A., Politoff, V., & Ward, A. (2014). Australians' attitudes to violence against women: Full technical report,

Findings from the 2013 National Community Attitudes towards Violence Against Women Survey. Melbourne: Victorian Health Promotion Foundation. pg. 60. Retrieved from https://www.vichealth.vic.gov.au/ media-and-resources/publications/2013-national-community-attitudestowards-violence-against-women-survey

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