

# Knowledge, Stress and Coping Patterns of Grandmothers in Child-rearing Practices

REENA M D'SILVA<sup>1</sup>, ANSUYA<sup>2</sup>, V VINISH<sup>3</sup>

## ABSTRACT

**Introduction:** Grandmothers are an essential part of the extended family. In modern culture, grandparents frequently have a direct role in the care of grandchildren. Grandmothers have a powerful and prominent role within the family and usually when the mother is working the grandmothers takes charge of child-rearing.

**Aim:** To assess the knowledge, stress and coping patterns of grandmothers involved in child-rearing practices of children of employed mothers in selected areas of Udupi district, Karnataka, India.

**Materials and Methods:** The present descriptive study was conducted in Udupi taluk of Udupi district. Villages of Udupi taluk were selected randomly and the samples were selected by purposive sampling techniques. A total of 300 grandmothers involved in child-rearing practices of children of employed mothers were assessed with the help of a structured questionnaire.

**Results:** The result showed that grandmothers had average knowledge, moderate stress and high coping in regard to child-rearing practices. A statistically significant association was found between knowledge score and selected variables such as educational status ( $\chi^2=13.768$ ,  $p=0.022$ ), family income ( $\chi^2=14.363$ ,  $p=0.016$ ) and previous work experience ( $\chi^2=15.77$ ,  $p<0.001$ ). A statistically significant association was also found between levels of stress score with family income ( $\chi^2=17.028$ ,  $p=0.005$ ). There was a negative correlation between the stress and coping and there was a weak positive correlation between the knowledge and the coping patterns of grandmothers.

**Conclusion:** Caring for a grandchild may be stressful for grandmothers. The study suggests that when the grandmothers take care of grandchildren their views should also be considered as it may reduce stress among them and helps to lead a positive life.

**Keywords:** Baby care stress, Child caring, Grandchild, Working mothers

## INTRODUCTION

Parenting or child-rearing is the process of promoting and supporting the physical, emotional, social, financial and intellectual development of a child from infancy to adulthood [1]. When the parents are unable to raise their children, grandparents usually step in to accept the child's responsibilities [2]. At the time of crisis, many grandparents step in to support their children. Some grandparents provide financial support and some grandparents provide child care and act as primary caregivers [3].

Over one-quarter (28%) of Indian grandparents are providing direct care to their grandchildren, most often on a daily basis. Just under one-quarter (21%) provide care several times a week. Most (67%) are providing care for one or two grandchildren [4]. Nurturing the grandchildren may be related to emotional, physical, financial, social and legal challenges which may disturb the health and quality of life of the grandmother [5].

A study was conducted in the US to examine the health, stress, coping and social support of grandmothers who live with one or more children and to find the difference that exists between grandmothers with primary and partial responsibility for their grandchildren's care. It was reported that grandmothers who were having primary responsibility had significantly greater stress-related parenting and they were having less subjective social support and instrumental support [6]. Another study was conducted in Kenya on stress-related factors among the caregiving grandmothers of Kenyan grandchildren. This study revealed that full-time caregiving grandmothers experienced higher stress level than the part-time caregiving grandmothers. When there is a trouble with the behaviour of the child and there is less instrumental support, it will result in the total experience of stress [7].

The purpose of the present study was to assess the knowledge of grandmothers about child-rearing practices and also to assess the stress experienced by grandmothers regarding child-rearing practices and identify the coping strategies adopted by them so that awareness can be created among the people.

## MATERIALS AND METHODS

The present descriptive study was conducted in Udupi district of Karnataka state for a period of 10 months i.e., from August 2016 to May 2017. The population consisted of grandmothers who were involved in child-rearing practices of children of employed mothers. Grandmothers who were taking care of children of non-working mothers were excluded from the study. Also, the grandmothers involved in child-rearing practices of disabled or chronic sick grandchildren and grandmothers who were not ready to take part in the study were excluded.

The pilot study was conducted in the month of December 2016 in Barkur village. It was conducted among 40 grandmothers involved in child-rearing practices of children of employed mothers. The aim of the pilot study was to determine the study feasibility. House to house survey was done. Pre-validated questionnaire was administered to the participants. The analysis of the pilot study was done and the study was found to be feasible and the findings of the pilot study were used to estimate the sample size by using the following formula:

$$n = \frac{(z_{1-\frac{\alpha}{2}})^2 pq}{d^2}$$

n=minimum required sample size

p=according to the pilot study 0.25 (25%) (Mild stress)

q=1-p=1-0.25=0.75

$$Z_{1-\alpha/2}=1.96 \text{ from normal table}$$

$$d=\text{precision (5\%)}=0.05$$

$$n=\frac{(1.96)^2 \times (0.25) \times (0.75)}{(0.05)^2}$$

$$n=288$$

The estimated sample size was 288. Therefore, 300 grandmothers were chosen from the randomly selected villages of Udupi taluk by the purposive sampling technique.

The grandmothers, from selected villages, were asked to complete the structured questionnaire which was developed by the investigator. The questionnaire consists of demographic proforma, structured knowledge questionnaire, stress scale on child-rearing practices and coping scale on child-rearing practices.

The demographic proforma consists of nine items such as the age of the grandmother, educational status, family income, number of grandchildren, the gender of the grandchild, type of family, mode of residence, the health status of the grandmother and previous working experience.

The structured knowledge questionnaire had 30 items under different areas of child-rearing like nutrition, growth and development, daily personal care, communication, immunisation and prevention of accidents with four responses for each question and the correct response was assigned a score of one and wrong response scored as zero. According to the scores obtained, the grandmothers were categorised into having poor knowledge (0-10), average knowledge (11-20) and good knowledge (21-30).

The five-point Likert's scale on stress had 20 items with five responses to each item ranging from strongly agree, agree, not sure, disagree, and strongly disagree. Positive items scoring was strongly agree-1, agree-2, not sure-3, disagree-4 and strongly disagree-5 and reverse scoring was done for negative items. The highest score was 100 and the lowest score was 20. The level of stress was categorised arbitrarily as mild stress (20-46), moderate stress (47-73) and severe stress (74-100).

The five-point Likert's scale on coping had 20 items which included social support, self-controlling, distracting, diverting and use of beverages. Each item had five alternatives namely never, rarely, sometimes, often and always. Scoring of the positive items was never-1, rarely-2, sometimes-3, often-4, always-5 and reverse coding was done for the negative items. The minimum score was 20 and the maximum score was 100. The scoring for the scale was categorised arbitrarily as low coping (20-60) and high coping (61-100).

The tools were validated by seven experts. Reliability of knowledge questionnaire was done by the split half method using Spearman-Brown prophecy formula and found to be reliable with the score of 0.79. Reliability of the tool on stress and coping was established using Cronbach's alpha and found to be reliable with the score of  $r=0.84$  and  $r=0.85$  respectively.

Participants were approached by home to home survey and their written consent was taken prior to data collection, the study purpose was explained to the participants and confidentiality was secured. The study was approved by the Institutional Ethics Committee of Kasturba Hospital, Manipal.

## RESULTS

As described in [Table/Fig-1], majority 121 (40.3%) of the grandmothers were in the age group of 51-60 years and educational status of 167 (55.7%) grandmothers was primary education. Of the total 169 (56.3%) grandmothers had an income of  $\leq 10,000$ /month and 258 (86%) belonged to joint family. Majority i.e., 254 (84.7%) were staying in their own

house and 267 (89%) of the grandmothers were taking care of one grandchild. Of the total 142 (47.3%) of the grandmothers were taking care of boy child. About 136 (45.4%) grandmothers expressed that they were having health problem and among 136 most of them 75 (55.1%) were hypertensive. Majority 248 (82.7%) of the grandmothers were house makers, only 52 (17.3%) grandmothers were employed previously.

Sample characteristics	Frequency (f)	Percentage (%)
<b>Age in years</b>		
41-50	44	14.7
51-60	121	40.3
61-70	101	33.7
71 and above	34	11.3
<b>Educational status</b>		
No formal education	91	30.3
Primary education	167	55.7
Secondary education	38	12.7
PUC and above	4	1.3
<b>Family income per month (in rupees)</b>		
$\leq 10,000$	169	56.3
10,001-15000	103	34.3
15001-20,000	26	8.7
More than 20,000	2	.7
<b>Type of family</b>		
Nuclear	42	14
Joint	258	86
<b>Mode of residence</b>		
Own house	254	84.7
Son's house	28	9.3
Daughter's house	18	6
<b>Number of presently caring grandchildren</b>		
One	267	89
Two	32	10.7
Three	1	0.3
<b>Gender of the grandchild being taken care by grandmother</b>		
Boy	142	47.3
Girl	125	41.7
Boy and girl	33	11.0
<b>Presence of any health problem</b>		
No	164	54.6
Yes	136	45.4
<b>If yes specify (n=136)</b>		
Asthma	5	3.7
Diabetes mellitus	6	4.4
Hypertension	75	55.1
Hypertension and asthma	2	1.5
Hypertension and diabetes mellitus	38	28
Hypertension and back pain	1	0.7
Hypertension, diabetes mellitus and asthma	1	0.7
Hypotension	5	3.7
Joint pain	2	1.5
Neurologic problem	1	0.7
<b>Previous history of job</b>		
No	248	82.7
yes	52	17.3

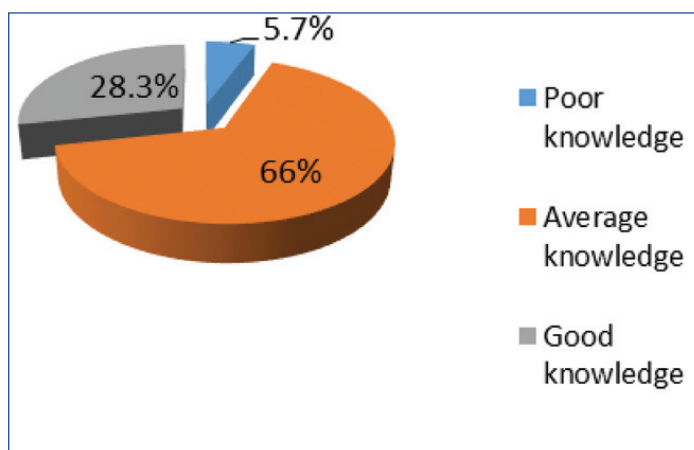
[Table/Fig-1]: Frequency and percentage distribution of sample characteristic (n=300).

The mean knowledge score on child-rearing was 17.78±4.54. The mean stress score on child-rearing was 58.04±11.59 and mean coping score on child-rearing was 72.16±6.99 [Table/Fig-2].

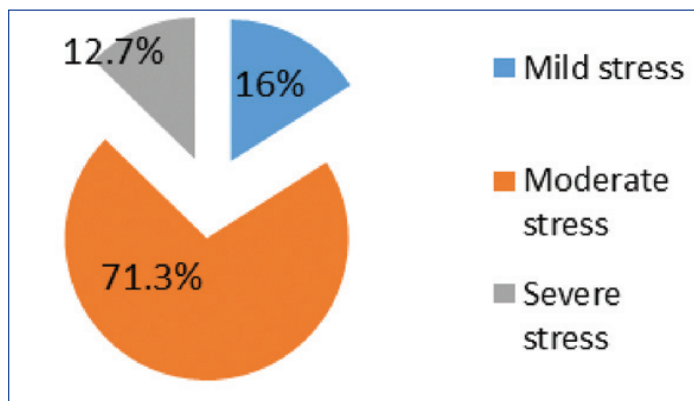
Variables	Maximum possible score	Mean	Median	Standard deviation
Knowledge	30	17.78	18	4.54
Stress	100	58.04	57.00	11.59
Coping	100	72.16	72.00	6.99

[Table/Fig-2]: Mean, median and standard deviation of knowledge, stress and coping pattern score (n=300).

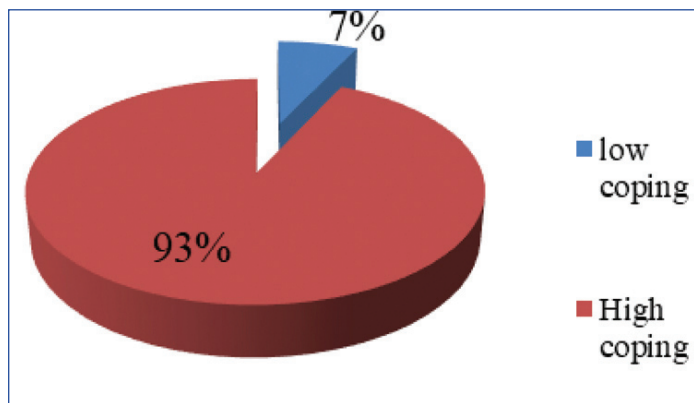
[Table/Fig-3-5] shows the knowledge, stress and coping score of grandmothers on child-rearing practices. That majority 198 (66%) of the grandmothers had average knowledge on child-rearing practices, 214 (71.3%) of the grandmothers experienced moderate stress on child-rearing and 273 (93%) of the grandmothers had high coping on child-rearing.



[Table/Fig-3]: Pie diagram shows knowledge score.



[Table/Fig-4]: Pie diagram shows stress score.



[Table/Fig-5]: Pie diagram shows coping pattern score.

It was found that there was a significant association between knowledge score and selected variables such as educational

status ( $\chi^2=13.768$ ,  $p=0.022$ ), family income ( $\chi^2=14.363$ ,  $p=0.016$ ) and previous work experience ( $\chi^2=15.77$ ,  $p<0.001$ ). Hence, it can be inferred that the knowledge depends on educational status, family income, and previous work experience and it is independent of other selected demographic variables. The study also revealed that there was a significant association between levels of stress score with family income ( $\chi^2=17.028$ ,  $p=0.005$ ) and it can be inferred that stress depends on family income and independent on other demographic variables. The study also revealed that there was no significant association between levels of the coping score with selected demographic variables [Table/Fig-6-8].

Demographic variables	Knowledge			$\chi^2$	df	p-value
	Poor	Satisfactory	Good			
<b>Age in years</b>						
41-50	4	30	10	8.064	6	.233
51-60	5	78	38			
61-70	6	62	33			
70 and above	2	28	4			
<b>Educational status</b>						
No formal education	8	66	17	13.768*	6	0.022**
Primary education	8	107	52			
Secondary education	0	24	14			
PUC and above	17	1	2			
<b>Family income per month (in rupees)</b>						
≤10000	9	114	46	14.363*	6	0.016**
10001-15000	5	74	24			
15001-20000	3	9	14			
More than 20000	0	1	1			
<b>Type of family</b>						
Nuclear	1	26	15	.369	2	1.994
Joint	16	172	70			
<b>Mode of residence</b>						
Own house	12	165	77	6.134*	4	0.151
Son's house	3	21	4			
Daughter's house	2	12	4			
<b>No. of presently caring grandchildren</b>						
One	15	179	73	3.492*	4	0.622
Two	2	18	12			
Three	0	1	0			
<b>Previous history of job</b>						
No	13	153	82	15.77	2	0.000**
Yes	4	45	3			

[Table/Fig-6]: Association between the level of knowledge with selected demographic variables (n=300). \*Fisher exact test value used, \*\*level of significance at  $p<0.05$

Spearman's correlation coefficient was computed to find the relationship between the stress and coping and knowledge and coping. It was found that there was a negative correlation between the stress and coping which is statistically significant ( $\chi^2=-0.121$ ,  $p=0.037$ ) and there was a weak positive correlation between the knowledge and the coping which is statistically not significant ( $\chi^2=0.027$ ,  $p=0.644$ ) [Table/Fig-9].

### DISCUSSION

The present study was aimed to assess the knowledge, stress experienced and coping patterns of grandmothers involved in child-rearing practices of children of employed mothers. Hence, a quantitative approach with the descriptive design was used to achieve the objectives of the study. The study was conducted

Variables	Mild stress	Moderate stress	Severe stress	$\chi^2$	df	p-value
<b>Age in years</b>						
41-50	9	29	6	4.752	6	.576
51-60	23	86	12			
61-70	11	74	16			
70 and above	5	25	4			
<b>Educational status</b>						
No formal education	11	65	15	3.634**	6	.692
Primary education	29	120	18			
Secondary education	7	26	5			
PUC and above	1	3	0			
<b>Family income per month (in Rupees)</b>						
≤10000	20	120	29	17.028*	6	.005**
10001-15000	22	75	6			
15001-20000	4	19	3			
More than 20000	2	0	0			
<b>Type of family</b>						
Nuclear	10	30	2	4.271	2	.118
Joint	38	184	36			
<b>Mode of residence</b>						
Own house	41	179	34	2.888*	4	.573
Son's house	6	19	3			
Daughter's house	1	16	1			
<b>No. of presently caring grandchildren</b>						
One	44	188	35	5.551*	4	.254
Two	3	26	3			
Three	1	0	0			
<b>Gender of the grandchild caring by grandmother</b>						
Boy	29	94	19	4.732	4	.316
Girl	15	94	16			
Boy and girl	4	26	3			
<b>Presence of any health problem</b>						
No	31	112	21	2.379	2	.304
Yes	17	102	17			
<b>Previous history of job</b>						
No	41	173	34	1.980	2	.372
Yes	7	41	4			

**[Table/Fig-7]:** Association between the stress level with selected demographic variables (n=300). \*Fisher exact test value used, \*\*level of significance at p<0.05

among 300 grandmothers involved in child-rearing practices of children of employed mothers in selected areas of Udupi district, Karnataka.

The present study revealed that the majority 214 (71.3%) of the grandmothers experienced moderate stress, 48 (16%) of the grandmothers experienced mild stress and remaining 38 (12.7%) experienced severe stress. The findings of the study support the study conducted by Doley, Bell, Watt, and Simpson, (2015) to explore the relationship between the psychological health of grandparents raising grandchildren, and grandchildren's social, emotional and behavioural issues. The study revealed that, grandparents with abnormal, hyperactive and emotional symptoms who are raising grandchildren measured a higher score on stress, anxiety, and depression and they were reported to have less satisfaction in life. The grandparents having social support experienced less depression [10].

Demographic Variables	Low coping	High coping	$\chi^2$	df	p-value
<b>Age in years</b>					
41-50	3	41	.852*	3	.859
51-60	7	114			
61-70	8	93			
70 and above	3	31			
<b>Educational status</b>					
No formal education	8	83	1.085*	3	.766
Primary education	10	157			
Secondary education	3	35			
PUC and above	0	4			
<b>Family income per month</b>					
≤10000	15	154	2.125*	3	.525
10001-15000	5	98			
15001-20000	1	25			
More than 20000	0	2			
<b>Type of family</b>					
Nuclear	1	41	1.601	1	.206
Joint	20	238			
<b>Mode of residence</b>					
Own house	15	239	3.704*	2	.117
Son's house	4	24			
Daughter's house	2	16			
<b>No. of presently caring grandchildren</b>					
One	18	249	1.608*	2	.516
Two	3	29			
Three	0	1			
<b>Gender of the grandchild caring of by grandmother</b>					
Boy	13	129	2.963	2	.227
Girl	5	120			
Boy and girl	3	30			
<b>Presence of any health problem</b>					
No	8	156	2.502	1	.114
Yes	13	123			
<b>Previous history of job</b>					
No	20	228	2.491	1	.115
Yes	1	51			

**[Table/Fig-8]:** Association between the coping of the grandmothers with selected demographic variables (n=300). \*Fisher exact test value used

Variables	Rho (ρ)	p-value
Stress	-0.121	0.037
Coping		
Knowledge	.027	0.644
Coping		

**[Table/Fig-9]:** Correlation between the stress and the coping pattern score and knowledge and the coping pattern score (n=300).

In the present study majority of the grandmothers belonged to the age group of 51-60 years and 167 (55.7%) of the grandmothers educational status was primary education. About 136 (45.4%) of the grandmothers expressed that they were having a health problem and among 136 most of them 75 (55.1%) were hypertensive and 38 (28%) were hypertensive as well as diabetic. The findings of the study were supporting the study conducted in the United States. In the supporting study majority of the grandmothers were maternal grandmothers with the age range of 31-77 years. But against present study findings, the supportive study suggests that 39% of the grandmothers completed their

high school education. Around 45% of the grandmothers had serious health problems like hypertension, cardiac diseases, diabetes, asthma, arthritis and cancer which was supporting the present study findings [8].

The present study showed that there was a significant association between knowledge score and selected variables such as educational status, family income, and previous work experience, and there was a significant association between levels of stress score with family income. The study also revealed that there was no significant association between levels of the coping score with selected demographic variables. The result of the present study was supported by the findings of a study conducted in Thirupathi town, to assess the grandparents changing role in child-rearing activities and to find the association with their mental health. The mental health score of paternal and maternal grandparents follow respectively 24.14 (SD 3.835) and 28.77 (SD 5.269) and the t-value ( $t=3.711$ ,  $p<0.001$ ) which showed that there was a significant difference in the mental health score. It concluded that there was a significant association between the mental health score with the grandparent type [9]. The study results are also supported by the study conducted in Bond University. The study suggested that if social support is given the stress among the grandparents will be less and can achieve good child care services [10].

The present study showed that there was an inverse correlation between the stress and coping. Thus, it is inferred as the person with good coping will experienced low stress. According to Dowdell, grandmothers who are single perceived that they had less family support ( $r=-.25$ ,  $p=.01$ ) and poorer health ( $r=.42$ ,  $p=0.01$ ). The low and poor physical health of grandmothers has negatively impacted the grandmother's self-esteem ( $r=-.25$ ,  $p=0.01$ ), perception regarding finances ( $r=.45$ ,  $p=.001$ ) and lack of family support ( $r=.42$ ,  $p=.001$ ) and had a negative impact on day today work [8].

Based on the study finding, researchers made some suggestions like caring a grandchild or taking the role of a grandmother can be a very challenging role for a woman. Hence, when the grandmother takes care of grandchildren their views should be considered which will help the grandmothers to lead a positive life.

Researchers also made the following recommendations for the further research:

- A qualitative study can be conducted to assess the experiences of grandmothers on child-rearing.
- Interventional study can be conducted for studying factors that reduce the stress of grandmothers during child-rearing.
- Comparative study can be conducted among the rural and urban grandmothers.
- The study may be implied on a large sample in other Taluks of Udupi district.

## LIMITATION

The study was conducted in selected villages of Udupi taluk. The sample size was limited to 300 and selected only those grandmothers who were involved in child-rearing practices and grandmothers with disabled or chronic sick grandchildren involved in childrearing practices were not involved.

## CONCLUSION

The present study showed that majority of grandmothers who involved in child-rearing practices had average knowledge, moderate stress and high coping regarding child-rearing practices. From the present study, it can be inferred that the person with good coping will experience low stress and knowledge does not have any impact on coping ability. The study also revealed that there was a significant association between knowledge score and selected variables such as educational status, family income, and previous work experience, thus it can be interpreted that knowledge was dependent on educational status, family income and previous work experience and independent of other variables. The study also revealed that there was a significant association between levels of stress score with family income, thus it was inferred that stress was dependent on family income and independent of other variables. The study also revealed that there was no significant association between levels of the coping score with selected demographic variables.

## ACKNOWLEDGEMENTS

Our heartfelt gratitude to all the study participants who cooperatively and willingly participated in the study and spent their valuable time in completing the questionnaire.

## REFERENCES

- [1] Vinish V. Mother's knowledge on immunization schedule of her child: a descriptive Survey. *Manipal Journal of Nursing and Health Sciences*. 2016;2(2):41-45.
- [2] Smith M, Segal J. Grandparents raising grandchildren help guide. Available at: [org:https://www.helpguide.org/articles/grandparenting/grandparents-as-parents.htm](https://www.helpguide.org/articles/grandparenting/grandparents-as-parents.htm)
- [3] Hanson SM, Gedaly-Duff V, Kaakinen JR. Family health care nursing theory practice and research. 3<sup>rd</sup> ed. Jaypee brothers medical publishers(P) Ltd; 2007.
- [4] SPOTLIGHT-Asian Indian grandparents; metropolitan life insurance company, New York, NY 10166. Available at: [www.MatureMarketInstitute.com](http://www.MatureMarketInstitute.com).
- [5] Zausziewski JA, Musil CM, Burant CJ Au Tsay-Yi. Resourcefulness training for grandmothers preliminary evidence of effectiveness. *Res Nurs Health*. 2014;37(1):42-52.
- [6] Musil CM. Health, stress, coping and social support in grandmothers caregivers. *Journal of Health Care for Women International*.1998;19:441-455.
- [7] Paul OO, Palmerus K. Stress related factors among primary and part-time caregiving grandmothers of Kenyan grandchildren. *The International Journal of Aging and Human Development*. 2005;60(4):273-82.
- [8] Dowdell EB. Grandmothers caregiver reactions to caring for high-risk grandchildren "I could write a book". *Journal of Gerontological Nursing*. 2005;31(6):31-37.
- [9] Anuradha K, Adilakshmi T, Prashanthi GV. Changing role of grandparents in childrearing and its association with mental health. *International Journal of Home Science*. 2016;2(2):280-282.
- [10] Doley, R., Bell, R., Watt, B., & Simpson, H. (2015). Grandparents raising grandchildren: Investigating factors associated with distress among custodial grandparent. *Journal of Family Studies*, 21(2), 101-119. Available at: <http://www.tandfonline.com/10.1080/13229400.2015.1015215>.

### PARTICULARS OF CONTRIBUTORS:

1. Postgraduate Student, Department of Child Health Nursing, Manipal College of Nursing, Manipal Academy of Higher Education, Manipal, Karnataka, India.
2. Assistant Professor, Department of Community Health Nursing, Manipal College of Nursing, Manipal Academy of Higher Education, Manipal, Karnataka, India.
3. Assistant Professor, Department of Community Health Nursing, Manipal College of Nursing, Manipal Academy of Higher Education, Manipal, Karnataka, India.

### NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Mr. V Vinish,  
Assistant Professor, Department of Community Health Nursing, Manipal College of Nursing,  
Manipal Academy of Higher Education, Manipal-576104, Karnataka, India.  
E-mail: [vinish.v@manipal.edu](mailto:vinish.v@manipal.edu)

FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Submission: **Sep 04, 2017**  
Date of Peer Review: **Sep 28, 2017**  
Date of Acceptance: **Dec 26, 2017**  
Date of Publishing: **Apr 01, 2018**