

International Journal of Statistics and Applied Mathematics

ISSN: 2456-1452
Maths 2018; 3(1): 433-436
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www.mathsjournal.com
Received: 01-11-2017
Accepted: 06-12-2017

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The effectiveness of structured teaching programme regarding awareness of dengue among mothers of under five children

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Abstract

Young children are precious and they are future of the Nation. Child health care is the most crucial factor to determine the growth of the child especially in the first five years of life. Dengue hemorrhagic fever, a potentially lethal complication, was recognized as a leading cause of child hard mortality. Hence there is a need to create awareness among mother of under five children to present the child mortality and morbidity.

In the present study, it is proved that structured teaching program was effective regarding awareness of dengue fever among mothers of under five children.

Keywords: effectiveness of structured, teaching programme, regarding awareness, mothers of, under five children

Introduction

Health is wealth. Research in recent years has revealed that children's experience from birth to age five have a powerful effect on the rest of their lives. Certain specific biological and psychological needs must be met to ensure the survival and health development of the child to a healthy future adult. Dengue is the most important mosquito born viral disease endemic in more than 100 countries. Dengue constitutes a major cause of pediatric morbidity and mortality. Prevention and control of dengue fever has become more urgent.

The secret of Nation's health lies in the homes of the people and in the hands of women. In the face of devastating dengue pandemic and its immediate threat to the children, there is a need to educate the mothers of under age five regarding the prevention by a structured teaching programme.

Objectives

- (i) To assess the pretest knowledge regarding awareness of Dengue fever among the mothers of under five children.
- (ii) To evaluate the effectiveness of structured teaching programme regarding awareness of Dengue fever among mothers of under five children through the post test knowledge.

Hypothesis

H₁: There is significant difference between pretest and posttest of knowledge score on Dengue fever among mothers of under five children.

Methodology:

- (i) Data was analyzed by descriptive and inferential statistics.
- (ii) Area: Selected rural areas of Guntakal.
- (iii) Sampling method: Non-probability purposive sampling was used to select 50 mothers of under five children.
- (iv) Period: Data was collected from 01.07.13 to 30.07.13.

Statistical Tools: We use paired t-tests for analyzing the knowledge levels before and after structured teaching programme.

Results

Table 1: Frequency and percentage distribution of demographic variables (N= 50)

S. No	Demographic Information		Group	
			N	Percentage
1.	Age in years	23 – 26	10	20
		27 – 30	17	34
		31 – 34	15	30
		35 – 38	08	16
2.	Religion	Hindu	32	64
		Muslim	11	22
		Christian	07	14
3.	Education	Illiterate	27	54
		Primary School	12	24
		Secondary School	05	10
		Graduate & above	06	12
4.	Occupation	House wife	18	36
		Employee	10	20
		Agriculture	05	10
		Daily wagers	17	34
5.	Family income per month	Rs. 3000 – 4000	14	28
		Rs. 4001 – 7000	11	22
		Rs. 7001 – 10000	10	20
		Rs. 10001 & above	15	30
6.	Type of family	Nuclear	23	46
		Joint	14	28
		Extended	13	26
7.	Type of house	Pucca	20	40
		Kutchha	25	50
		Semi – pacca	05	10
8.	Types of drainage system	Open drainage system	34	68
		Closed drainage system	16	32
9.	Number of children	1	10	20
		2	36	72
		3 & above	04	08
10.	Sources of information	Family members & Relatives	09	18
		Friends	11	22
		Health media	19	38
		Health care providers	11	22

While analysis of demographic variables with regard to age in years, the table shows that the majority of mothers 17 (34%) were belongs to the age group of 27 – 30 years, 15 (30%) were between 31 – 34 years, 10 (20%) were between 23 – 26 years and 8 (16%) were between 35 – 38 years of age.

With regard to religion shows that the majority of mothers 32 (64%) were belongs to Hindu, 11 (22%) were belongs to Muslims, 7 (14%) were belonged to Christian.

With regard to educational status shown that majority of the mothers 27 (54%) were illiterate, 12 (24%) were primary school, 6 (12%) were graduate & above and 5 (10%) were secondary school education.

With regard to occupation, majority of the mothers 18 (36%) were housewives, 17 (34%) were daily wagers, 10 (20%) were employed and 5 (10%) were agriculture.

With regard to income per monthly reveals that majority of families income 15 (30%) were Rs.10001 & above, 14 (28%) families income were Rs.3000 – 4000, 11 (22%) were drawn the income Rs.4001 – 7000 and 10 (20%) families income were Rs.7001 – 10000.

With regard to the type of family reveals that majority of the mothers 23 (46%) were belongs to nuclear and 14 (28%) were joint family and 13 (26%) were extended families.

With regard to type of house, majority of mothers 25 (50%) are living in kutchha house, 20 (40%) had pucca house and 5 (10%) mothers has semi pucca house.

With regard to type of drainage system, the majority of mothers 24 (68%) had open drainage system and 16 (32%) mothers had closed drainage system.

With regard to children, the majority of mothers 36 (72%) had 2 children, 10(20%) have only one child and 4 (8%) had 3 children & above.

With regard to sources of information regarding awareness of Dengue fever shown that majority of the mothers 19(38%) known information through healthy media, 11(22%) known information through their friends and health care providers and 9(18%) mothers known information through family members & relatives.

Table 2: Pretest level of knowledge

Level of knowledge	No. of mothers	Percentage
In adequate	40	80%
Moderately adequate	08	16%
Adequate	02	4%
Total	50	100%

Coming to the data regarding the pretest level of knowledge 80% of mothers are having inadequate knowledge and 16% of them are having moderately adequate knowledge and 4% of then having adequate knowledge regarding awareness of Dengue fever.

Table 3: Post test level of knowledge

Level of knowledge	No. of mothers	Percentage
Moderately adequate	14	28%
Adequate	36	72%
Total	50	100%

And in post test level of knowledge, 72% are having adequate knowledge and 28% are having moderately adequate knowledge.

Table 4: Comparison of pretest and posttest knowledge score:

Awareness of Dengue fever	Pre test		Post test		Students paired t-test
	Mean	S.D	Mean	S.D	
Knowledge	17.84	4.97	33.58	3.67	20.36

When coming to comparison of pretest & post test, the mean & S.D of pretest is 17.84, 4.97 and post test is 33.58, 3.67, their t- calculated value is 20.36. The above table shows the comparison of mothers of under five children post test percentage of knowledge regarding awareness of Dengue fever, before and after the structured teaching programme. Based on this data mothers have improved their knowledge after the structured teaching programme.

The differences between pretest and posttest knowledge scores were statistically significant. Considering knowledge regarding awareness of Dengue fever, in pretest mothers scored only 44.60 percent after post test they have scored 83.95 percent, so the difference is 39.35 percent. The difference between pretest and past test knowledge scores were statistically significant. Statistical significance was calculated by using students paired t-test.

Table 5: Effectiveness of structured teaching programme

Knowledge regarding awareness of Dengue fever	Percentage of pretest	Percentage post test	Percentage of knowledge gain
Evaluation of knowledge	44.60 %	83.95%	39.35%

The overall knowledge gain is 39.35%. this indicates the effectiveness of structured teaching programme.

Table 6: Association between pretest level of knowledge and demographic Variables

S. No	Demographic Variables		Pre- test level of knowledge						N	χ^2
			Inadequate		Moderately adequate		Adequate			
			n	%	n	%	n	%		
1.	Age in years	23-26	07	14	03	06	00	00	10	5.58
		27-30	14	28	03	06	00	00	17	
		31-34	12	24	02	04	01	02	15	
		35-38	07	14	00	00	01	02	08	
2	Religion	Hindu	24	48	06	12	02	04	32	2.88
		Muslim	09	18	02	04	00	00	11	
		Christian	07	14	00	00	00	00	07	
3	Educational Status	Illiterate	25	50	02	04	00	00	27	35.44
		Primary School	12	24	00	00	00	00	12	
		Secondary School	03	06	02	04	00	00	05	
		Graduate School	00	00	01	08	02	04	06	
4	Occupation	House wife	17	34	01	02	00	00	18	28.85
		Employee	02	04	06	12	02	04	10	
		Agriculture	05	10	00	00	00	00	05	
		Daily wages	16	32	01	02	00	00	17	
5	Family income per month	Rs. 3000 - 4000	13	26	01	02	00	00	14	15.71
		Rs. 4000 – 7000	10	20	01	02	00	00	11	
		Rs. 7000 – 10000	10	20	00	00	00	00	10	
		Rs. 10001 & above	07	14	06	12	02	04	15	
6	Type of family	Nuclear	19	38	02	04	02	04	23	5.71
		Joint	12	24	02	04	00	00	14	
		Extended	09	18	04	08	00	00	13	
7	Type of house	Pucca	12	24	06	12	02	04	20	8.95
		Kutchha	23	46	02	04	00	00	20	
		Semi-pucca	05	10	00	00	00	00	05	
8	Type of drainage system	Open drainage system	28	56	05	10	01	02	34	0.48
		Closed drainage system	12	24	03	06	01	02	16	
9	Number of Children	1	07	14	03	06	00	00	10	7.09
		2	30	60	05	10	01	02	36	
		3 & above	03	06	00	00	01	02	04	
10	Sources of information	Family members & relatives	06	12	03	06	00	00	09	12.96
		Friends	09	18	00	00	02	04	11	
		Health	17	34	02	04	00	00	19	
		Health care providers	08	16	03	06	00	00	11	

The chi-square value for demographic variable age in years in pretest score is 5.58, Religion is 2.88, Educational status is 35.44, occupation is 28.5, family income per month is 15.71, type of family is 5.17, type of house 8.95, type of drainage system is 0.48, number of children is 7.09 and sources of

information is 12.26.

While associate the demographic variable the above table show that education $\chi^2=35.44$, occupation $\chi^2=28.85$ and family income per month $\chi^2=15.71$ are significantly associated with their pre test knowledge score.

Table 7: Association between post test level of knowledge and demographic Variables

S. No	Demographic Variables		Post- test level of knowledge				N	χ^2
			Moderately adequate		Highly adequate			
			N	%	n	%		
1.	Age in years	23-26	03	06	07	14	10	0.08
		27-30	05	10	12	24	17	
		31-34	04	08	11	22	15	
		35-38	02	04	06	12	08	
2	Religion	Hindu	08	16	24	48	32	3.61
		Muslim	02	04	09	18	11	
		Christian	04	08	03	06	07	
3	Educational Status	Illiterate	14	28	13	26	27	16.56
		Primary School	00	00	12	24	12	
		Secondary School	00	00	05	10	05	
		Graduate School	00	00	06	12	06	
4	Occupation	House wife	00	00	18	36	18	24.79
		Employee	00	00	10	20	10	
		Agriculture	03	06	02	04	05	

		Daily wages	11	22	06	12	17	
5	Family income per month	Rs. 3000 - 4000	10	20	04	14	14	23.20
		Rs. 4001 – 7000	04	08	07	11	11	
		Rs. 7001 – 10000	00	00	10	20	10	
		Rs. 10001 & above	00	00	15	30	15	
6	Type of family	Nuclear	04	08	19	38	23	2.86
		Joint	06	12	08	16	14	
		Extended	04	08	09	18	13	
7	Type of house	Pucca	00	00	20	40	20	15.07
		Kutchra	13	26	12	24	25	
		Semi-pucca	01	02	04	08	05	
8	Type of drainage system	Open drainage system	10	20	24	48	34	0.10
		Closed drainage system	04	08	12	24	16	
9	Number of Children	1	00	00	10	20	10	7.56
		2	14	28	22	44	36	
		3 & above	00	00	04	08	04	
10	Sources of information	Family members & relatives	00	00	09	18	09	5.28
		Friends	03	06	08	16	11	
		Health	06	12	13	26	19	
		Health care providers	05	10	06	12	11	

The chi-square value for demographic variable age in years in post test score is 0.08, religion is 3.61, educational status is 16.56, occupation is 24.79, family income per month is 23.20, type of family is 2.86, type of house 15.07, type of drainage system 0.10, number of children is 7.56 and finally the sources of information is 5.28.

Conclusion

The result of the study shows that in pretest knowledge of mothers regarding awareness of Dengue fever was 44.60% with mean score 17.84. mean percent 34.69% and S.D 4.97.

In post test knowledge of mothers regarding awareness of Dengue fever was 83.95% with mean score 33.58 and mean percent 65.31 and S.D 3.671. The 't' value was 20.36 shows there was a significant difference between the pretest and posttest scores.

The comparison of the pretest and posttest knowledge has the difference of 39.35%. The association between demographic variables shows there was a significant association between the pretest knowledge score and the knowledge of mothers with education $\chi^2= 35.44$, occupation $\chi^2= 28.85$ and family income per month $\chi^2= 15.71$. Hence hypothesis was proved.

References

- 1 Abraham B, Johness L. Statistical Methods for Forecasting, Wiley, 2005.
- 2 Brock Well, Peter J, Davis Richard A. Introduction to Time series and forecasting 2nd. Ed., Springer –Verlang, 2002.
- 3 David Clayton, Biostatistics. On inferring presence of an individual in a mixture: a Bayesian approach. 2010; 11(4):661-673. doi: 10.1093/biostatistics/kxq035.
- 4 Hausman J. Specification Tests in Econometrics, Econometrica. 1978; 46:1251-1271.
- 5 Heckerman, Mark J *et al*. Efficient Control of population Structure in Model Organism Association Mapping, Genetics. 2008; 178:1709-1723.
- 6 Johnson RA, Wichern DW. Applied Multivariate statistical Analysis Fifth edition PHI learning private Ltd., New Delhi, 2009.
- 7 Kadane JB, Lazar NA. Methods and Criteria for Model Selection, Journal of the American Statistical Association. 2004, 99(465):279-290.
- 8 Shumway RH, DS Stoffer. Time Series Analysis and its Applications. Springer, New York, 2000.

- 9 Visweswara Rao K. Biostatistics - A Manual of Statistical Methods for use in Health, Nutrition and Anthropology Jaypee Brothers Medical Publishers (P) Ltd., New Delhi, 1999.
- 10 Zachariah Gomper, C Alex Buerkle. A Hierarchical Bayesian Model for Next-Generation population Genomics, Genetic. 2011; 187:903-917.