

Original Article

A Study To Assess The Effectiveness Of A Planned Teaching Programme On Diabetes Mellitus And Its Management Among Asha Workers In Selected Areas Of Udupi District, Karnataka.

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Abstract :

Background : Diabetes is a chronic metabolic disorder which is prevalent throughout the world. ASHA workers are the grass root workers who have direct contact with the people in the community who can be of great help in empowering the diabetes individuals in their management.

Methods : The study used evaluative approach with one group pre-testpost-test design. Sixty ASHA workers of selected PHC's and CHC's of Udupi District were selected for the study using non probability convenient sampling, technique. The instruments used for the study were Demographic Proforma, structured knowledge questionnaire on diabetes mellitus and its management. Descriptive and inferential statistics were used for analysis of the data.

Results : Majority 42(70%) of ASHA workers belongs to the age group of 31-40yrs and 28 (46.7%) of them had experience as ASHA worker with high school education. In the pre-test 17(28.3%) of ASHA workers had poor knowledge but in post-test, 28(46.7%) of them gained good knowledge which indicated that the planned teaching programme on diabetes mellitus and its management was found to be effective in improving the knowledge of ASHA workers. (T value- 14.226, p value - 0.002).

Conclusion : The study concluded that the teaching programme was effective in bringing desirable changes in knowledge of ASHA workers.

Keywords : planned teaching programme, diabetes mellitus and its management, Accredited Social Health Activists (ASHA) workers

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Introduction

Diabetes mellitus is a serious health problem globally and its prevalence is increasing rapidly. Population growth, aging, urbanization and an increase of obesity and physical activity are the common cause for the prevalence of diabetes mellitus. In the world, India is leading with 40 million cases of diabetes. It is projected to increase to nearly 80 million by 2030.¹ Type 2 diabetes mellitus is known to be the commonest form of diabetes. The global burden of cases with type 2 diabetes mellitus (T2DM) was 285 million in 2010 and it is projected to increase to 438 million in 2030 Similarly, in India there was 51 million cases of type 2 diabetes in 2010 and in 2013 it was estimated to be 87 million.²

A study was conducted by Sarah W, Gojka R et al to estimate the global prevalence of diabetes of all ages for years 2000 and 2030 in Scotland. The study results shows that the world wide diabetes for all age-groups was identified to be 2.8% in 2000 and 4.4% in 2030 and it is estimated to rise from 171 million in 2000 to 366 million in 2030. The study concluded that the levels of obesity will remain constant still the epidemic of diabetes will continue.³

A cross-sectional community-based survey was conducted by ChythraR, Veena G. K et al to assess the prevalence and the socio- demographic correlates of type 2 diabetes mellitus among adults (30 yrs. and above) in coastal Karnataka. The study result shows that overall prevalence

of diabetes was 16% and 19% of males had diabetes. 11.2% of adults were with self-reported diabetes, 4.8% of people are found out with high blood sugar who were having normal blood glucose level previously. Higher odds of blood glucose level was seen with increasing age and 32% of people diagnosed with diabetes belonged to high socioeconomic status.⁴

A study was conducted by Norris SL, Chowdhury FM et al to examine the effectiveness of community health workers in caring of persons with diabetes in USA. Study findings shows that there is need for education for health workers for care of patient with diabetes.⁵

The individual beliefs about health and illness, based on his or her knowledge will determine the outcome of diabetes. Proper health education by health care personnel and new research findings and useful strategies can reduce the worsening of diabetes mellitus. Nurses have an important role in controlling and managing the spread and the complications, by motivating and helping the patients to take responsibility for their lives and to feel secure in making their own decisions and to improve their knowledge and attitude towards their health

The researcher thus motivated to conduct a study to find out the knowledge of community health workers, particularly Accredited Social Health Activists (ASHA) regarding knowledge on diabetes mellitus and its management and to develop a planned teaching programme to them and to determine the effectiveness of it. ASHA workers are chosen for the study as they are very actively working in the community and they act as an interface between the community and the public health system. They are the first hand of call for any health related demands to all rural people in their locality. So teaching them in diabetes mellitus and its management would be very useful as they are very much approachable and are the link between the rural population and the health services.

The purpose of the study was to empower the ASHA workers with knowledge about diabetes and its management. It would help them to apply the knowledge

into practice during their home visits in the community and thus to prevent the complications arising from this disease.

The objectives of the study were to;

1. Assess the knowledge level of ASHA workers regarding diabetes mellitus and its management in terms of pre-test knowledge score
2. Determine the effectiveness of teaching programme on knowledge regarding diabetes mellitus among ASHA workers in terms of gain in knowledge in posttest.

Methods and materials

An evaluative approach with one group pre-test post-test design was used for the study. Sixty ASHA workers from selected PHC's and CHC's of Udupi District were selected for the study using convenient sampling technique. To conduct the research study, administrative permission was obtained from Dean, Manipal College of Nursing Manipal and District Health Officer, Udupi District. Ethical clearance was obtained from the institutional Ethical Committee of Kasturba Hospital. Manipal Informed consent was obtained from each subject and confidentiality was assured by the researcher before collecting the data.

Background information was collected by using a Demographic Proforma, which consisted of 5 items. Structured knowledge questionnaire on diabetes mellitus and its management which consist of 30 items were used to assess the knowledge. The total score was 30, which was arbitrarily divided as poor, average and good as 0-10, 11-20, 21-30 respectively. Seven experts validated the tool, lesson plan, power point and booklet on diabetes mellitus. The tool (Demographic Proforma, knowledge questionnaire) and teaching plan was translated from English to Kannada and back to English version by experts. Reliability of knowledge questionnaire was established by split half method following Spearman Brown prophecy formula. The reliability coefficient of the structured knowledge questionnaire was $r = 0.8$ and the questionnaire was reliable. Descriptive and inferential statistics (frequency & percentage, paired t test) were used for analysis of data.

Results

Section 1: Description of sample characteristics

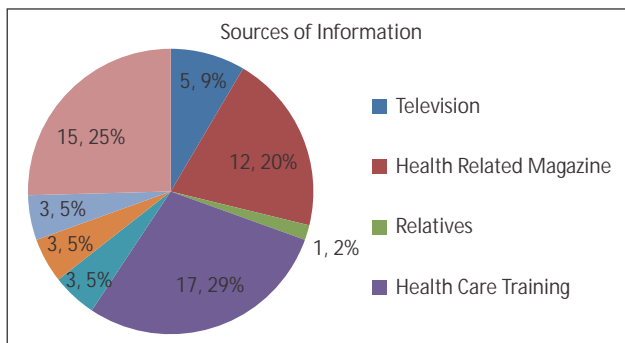
Convenient sampling method was used. Subjects were Sixty ASHA workers from selected CHC's and PHC's of Udupi District. Demographic characteristics include variables like age, education, religion, years of work experience as ASHA, previous knowledge on diabetes mellitus and sources of information. (Presented in table: 1)

Table 1 : Frequency and percentage distribution of ASHA workers based on sample characteristics n = 60

Characteristics	Frequency (f)	Percentage (%)
1. Age in years		
a. 20- 30	4	6.7
b. 31- 40	42	70
c. 41 - 50	14	23.3
2. Religion:		
a. Christian	2	3.3
b. Hindu	58	96.7
3. Education:		
a. Middle school (5 to 7 STD)	11	18.3
b. High school (8 to 10 std)	28	46.7
c. Intermediate (PUC)	18	30
d. Graduate		35
4. Years of experience as ASHA worker		
a. 2-3 year	30	50
b. >3 year	30	50
5. Previous knowledge on diabetes mellitus		
a. Yes	45	75
b. No	15	25

The data presented in table 1 shows that majority 42(70%) of ASHA workers belongs to the age group of 31-40yrs, and 58(96.7%) of the subjects were Hindu by religion

Figure 1 : Pie diagram showing the percentage distribution of sources of information on diabetes mellitus and its management.



Data presented in Fig.1 shows that most 17(28.3%) of them had information about diabetes mellitus from health care training and 12(20%) from health care magazines. 15 (25%) of subjects does not have any previous knowledge on diabetes mellitus.

Section 2

2a. Description of pre and posttest knowledge on diabetes mellitus and its management in frequency and percentage

The mean pre-test scores were compared with that of the post-test scores of ASHA workers on Diabetes mellitus and its management.

The knowledge scores were arbitrarily categorized as:-

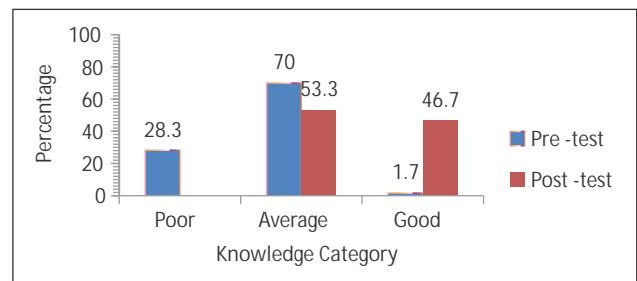
10: Poor, 11-20: Average, 21-30: Good

Table 2 : Frequency and percentage distribution of pre-test and post-test knowledge scores of ASHA workers

Score range	Pre-test score		Post-test score	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1-10 (poor)	17	28.3	-	-
11-20 (average)	42	70	32	53.3
21-30 (good)	1	1.7	28	46.7

Data presented in table 2 shows that, in the pretest, 17(28.3%) ASHA workers had poor knowledge, whereas in the post test there were no subjects with poor knowledge. In the pretest only one (1.7%) ASHA workers had good knowledge where as in posttest 28(46.7%) of them had good knowledge. 12 subjects moved from average knowledge to good knowledge after posttest. It shows that the planned teaching programme was effective in improving the knowledge on diabetes mellitus.

Figure : 2 bar diagram shows the effectiveness of planned teaching programme



The data presented in the figure: 1 shows that the mean post test score 46.7% is higher than the pretest score 28.3%, hence there was considerable gain in the knowledge of ASHA workers after planned teaching program.

Section 2b. Comparison between pre-test and post-test knowledge scores.

To compare the pretest and post knowledge score of ASHA workers on diabetes mellitus, paired t-test was computed and is presented in the table 3

Table 3 : Mean and standard deviation of pre-test and post-test scores of ASHA workers
n= 60

Knowledge score	Mean	SD	SEM	t value	df	P value
Pre-test	12.48	3.476	.449	14.226	59	0.002
Post test	20.08	4.010	.518			

P<0.05

The data represented in table 3 shows that the mean pre-test score 12.48, was apparently less compared to post-test 20.08. And p value is less than 0.05 hence null hypothesis was rejected and research hypothesis was accepted. It is inferred that the teaching programme was effective in improving the knowledge of ASHA workers.

Discussion

Effectiveness of planned teaching programme

The findings of the present study revealed that majority 42(70%) of ASHA workers belongs to the age group of 31-40yrs, and 28 (46.7%) of them had experience as ASHA worker and were with high school education. 15(25%) of subjects does not have any previous knowledge on diabetes mellitus. There was a significant difference in pre and post-test knowledge scores on diabetes mellitus and its management (p=0.002) after attending the teaching programme and thus it implies that the planned teaching programme was effective in improving the knowledge level of ASHA workers on diabetes mellitus and its management.

A study was conducted by Jane Maria Serrao to assess the effectiveness of lecture cum demonstration on first aid for selected minor injuries among ASHA workers in selected areas of Udupi District, Karnataka. Study result showed that majority 65% of ASHA were between 31 to 40 yrs. of age, about 63.3% were serving as ASHA since 1-2 yrs., majority of them had no previous experience of giving first

aid. There was significant improvement in knowledge on first aid (Z= 6.755, p= 0.001)

A study was conducted by Balagopalan P, Kamamma N et al to assess the effectiveness of a 6-month community-based diabetes prevention and management program among 1638 community health workers in rural Gujarat, India. Health education messages were provided in face-to-face individual and group sessions. Study result showed that 50% increase in knowledge of diabetes was seen in the subjects. The study concluded that community participatory programs can serve as an important role for future prevention and management efforts for diabetes which are rare and less utilized in India.⁶

Conclusion

There was statistically significant improvement in the mean post-test knowledge scores among ASHA workers on diabetes mellitus and its management. The planned teaching programme was effective in improving the knowledge level of ASHA workers on diabetes mellitus and its management. The present study was limited to relatively small sample size, hence scope for generalization of the study findings is limited. Based on the findings of the study, the recommendations offered for future research are, the study could be replicated on a large sample to increase the generalizability of the findings. Other forms of teaching programme or intervention can be evaluated in the same population to ascertain if they achieve the same results. A similar study may be replicated by selecting samples from different settings.

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