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Effect of Modern Instructional Aids for Developing Awareness Towards Zinc Deficiency Among Rural Females Of Sagar District, Madhya Pradesh, India

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Abstract

The main objective of the study was to determine the effect of modern instructional aids in comparison to traditional method for developing awareness among rural females of Sagar district. For this purpose 102 females were selected by random sampling. This study used the experimental-control design. It made use of two groups of samples, the experimental group and the control group. For study purpose a self constructed questionnaire based on various aspects of Zinc deficiency was constructed by the investigator. Before the actual study, a pretest on Zinc deficiency was carried out for the control and experimental groups, then the respondents were introduced to separate tutorial sessions with same contents, but different methods. Females of the experimental group received instruction with the help of modern instructional aids, and the control group studied various concepts of Zinc deficiency by traditional method of teaching. After this post test with the same questionnaire was conducted with both the groups and results were analysed.Result revealed that modern instructional Aids are effective tools for developing awareness among rural females of Sagar district towards Zinc deficiency.

***Key Words**: Zinc Deficiency, Modern Instructional Aids, Awareness.*

Introduction

Zinc deficiency is a serious problem in many developing countries. Because of inadequate intakes, billions of people are at risk for zinc deficiency. In fact, more than 400,000 children die each year due to zinc deficiency. Zinc deficiency is ranked as the 5th leading risk factor in causing disease, especially diarrhea and pneumonia in children, which can lead to high mortality rates in these underdeveloped regions. Other severe deficiency symptoms include stunted growth and impaired development of infants, children and adolescents. Early zinc deficiency also leads to impaired cognitive function, behavioral problems, memory impairment and problems with spatial learning and neuronal atrophy. In India the situation is worst, as per Lancet series nearly fifty one percent of Indian children under five years of age are stunted and thus constitute 34 percent of such children worldwide. According to M.K. Bhan, secretary in the department of biotechnology, zinc deficiency among children of poor and middle-class families is quite high, it is typically the result of inadequate dietary intake and primarily found among people who are largely vegetarians. In India most of the people residing in rural areas are poor, mainly vegetarians and not so much educated. These people are directly or indirectly are in grief of risks of zinc deficiency.Inorder to prevent them from the risk of zinc deficiency it is necessary to educate them, to make them aware of various aspects of zinc deficiency. But despite of educating them orally, it would be beneficial to impart them education through attractive teaching aids. This paper is an attempt to study the effectiveness of teaching aids for developing awareness towards zinc deficiency among rural communities of Sagar district.

Materials and Methods

The study was carried out in the three villages of Sagar district (M.P) namely Karila, mainpani, pathariya.Total of 102 female respondents were randomly selected as sampling design. Average age of female respondents was 38.5±13.0. This study used the experimental-control design. It made use of two groups of samples, the experimental group and the control group. For randomization each participant was allocated a number. Participant with even number were assigned to experimental group and participant with odd number to the control group. In order to study the awareness of zinc deficiency among rural females of Sagar district a self constructed questionnaire was developed and validated by the investigator. The questionnaire consisted of following aspects: concept, cause, related disorders, treatment and preventive measures for zinc deficiency. The reliability of the questionnaire was assessed by using

split half method and it was found to be 0.83. Validation involved the evaluation by nutrition experts for the appearance, operation and logic of hyperlink, spelling, grammar, readability, and clarity from the viewpoint of persons unfamiliar with the content.

Before the actual study, a pretest on zinc deficiency was carried out for the control and experimental groups, inorder to determine the knowledge of the female respondents on zinc deficiency and to identify any possible misconceptions held by them. After pretest the respondents were introduced to separate tutorial sessions. The content for the tutorial was similar for both the groups. The females of experimental groups were introduced to a tutorial session which involved the use of modern instructional aids like multimedia slides, pictures for explaining various aspects of zinc deficiency. The control group students were exposed to the lecture method on the same content used for experimental groups. The same tests were administered as posttests to both groups after they had completed the tutorial session.Datas for pre and post tests were collected, scored, analyzed and interpreted to obtain results.

Statistical treatment of data

Several statistical procedures were used in the experiment. The weighted means were used to describe the extent to which the females developed awareness towards zinc deficiency. Frequency distributions were used to describe the performance of the students in the experimental and control groups in different aspects of zinc deficiency. In the inferential aspect, the t-test for obtained means was used to determine if there is a significant difference between the pretest and posttest mean scores of the two groups.

Table 1. Score comparison of control & experimental group

S No.	Topic	Factors	Control group			Experimental group		
			mean	sd	sem	mean	sd	sem
01.	Concept of zinc deficiency	Pre-test	26.2	3.571	0.3553	27.20	2.972	0.2954
		Post-test	28.3	1.530	0.1522	33.13	2.809	0.2795
02	Causes of zinc deficiency	Pre -test	25.56	3.572	0.3554	26.24	3.270	0.3254
		Post-test	29.68	3.045	0.3030	38.38	4.180	0.4159
03	Human disorders due to zinc deficiency	Pre -test	24.44	3.606	0.3588	24.96	3.4220	0.3405
		Post-test	28.03	2.972	0.2957	38.39	3.9259	0.3402
04	Treatment for zinc deficiency related disorders. Preventive measures for zinc deficiency	Pre -test	27.60	2.160	0.2149	27.56	3.001	0.2986
		Post-test	31.18	3.008	0.2993	33.19	3.752	0.5307
05		Pre -test	26.60	2.141	0.2730	26.44	2.468	0.2455
		Post-test	29.70	4.062	0.4042	33.16	3.317	0.3300

Results

The data obtained from the study clearly indicate that teaching plays an important role in developing awareness towards various topics of zinc deficiency, as the mean scores obtained from pre test were comparative less than their post test results. The scores obtained in Table 1 also clearly indicate that females are much aware towards the treatment of zinc deficiency related disorders; this may be attributable to educational development in all spheres of society. Apart from this results also show that in comparison to control group, experimental group developed much awareness towards zinc deficiency and its related disorders.

Table 2 depicts that the calculated value of t =5.45 is greater than the table value =2.02 and 2.70 respectively at α =.05 level and 0.01 level. It indicates that there is a significant difference between the mean scores of females of Experimental group and Control group on posttest. Hence, the null hypothesis is not supported.

Similarly the calculated value of t= 7.64, 7.64, 4.13, 4.82 for causes of zinc deficiency, Human disorders due to zinc deficiency, Treatment for zinc deficiency related disorders and Preventive measures for zinc deficiency respectively, are greater than the table value t=2.02 at 0.05 level and t=2.70 at 0.01 level, which clearly indicates that there is a significant difference between the mean scores of females of Experimental group and Control groups on posttest. Hence, the null hypothesis is not supported for all the cases.

The graph obtained (fig.1) between various factors of zinc deficiency and their obtained mean responses from post test indicate that females belonging to experimental group developed much awareness towards zinc deficiency than females of control group. It is clear from the graph that females of experimental group developed much awareness towards causes of zinc deficiency and its related disorders than other factors. The graph (fig.1) also explains that the mean responses obtained for control group towards various factors of zinc deficiency are closer to each other.

Table 2 : Comparison of significance of difference in means of control & experimental group

S. No	Topic	Mean		Mean Difference	S.E of mean diff	Df	t-Value	Interpretation	
		Ctrl	Exp					0.01	0.05
01.	Concept of zinc deficiency	28.32	33.13	4.18	0.882	100	5.45	S	S
02	Causes of zinc deficiency	29.68	38.38	8.7	1.138	100	7.64	S	S
03	Human disorders due to zinc deficiency	28.03	38.39	8.7	1.138	100	7.64	S	S
04	Treatment for zinc deficiency related disorders.	31.18	33.19	2.81	0.68	102	4.13	S	S
05	Preventive measures for zinc deficiency	29.70	33.16	3.76	0.78	102	4.82	S	S

Conclusion and Discussion

The focus of the study was to determine the effect of modern instructional aids for developing awareness towards zinc deficiency among rural communities of Sagar district. Results in the pre test indicate that there was no significant difference in the obtained mean scores of the control and experimental group. This indicates that females belonging to rural communities of Sagar district do not possess awareness towards zinc deficiency at a desirable level. This may be due to effect of local condition, because local conditions do affect attitude as well as awareness of an individual, as was shown by Gupta, Grewal, and Rajput in their study of environmental awareness among children of rural and urban schools of Bhopal (1981). When compared with the results in posttest, it is clear that the female respondents performed better when taught in technology based environment supported with teaching aids as well as in traditional teaching based environment. It is also clear that teaching helps to develop awareness towards zinc deficiency whether it is imparted with or without teaching aids. Although the results obtained also show that teaching imparted through modern instructional aids like multimedia presentation, slides, posters etc. help in developing much awareness towards zinc deficiency than traditional teaching. The results obtained from the study done by Muhammad Khalid Mahmood (2004) also show that teaching imparted through Computer Assisted Instruction program is better mode of instruction than the traditional method. Consequently, the females of experimental group showed significant better performance when compared with control group on scores of posttest.

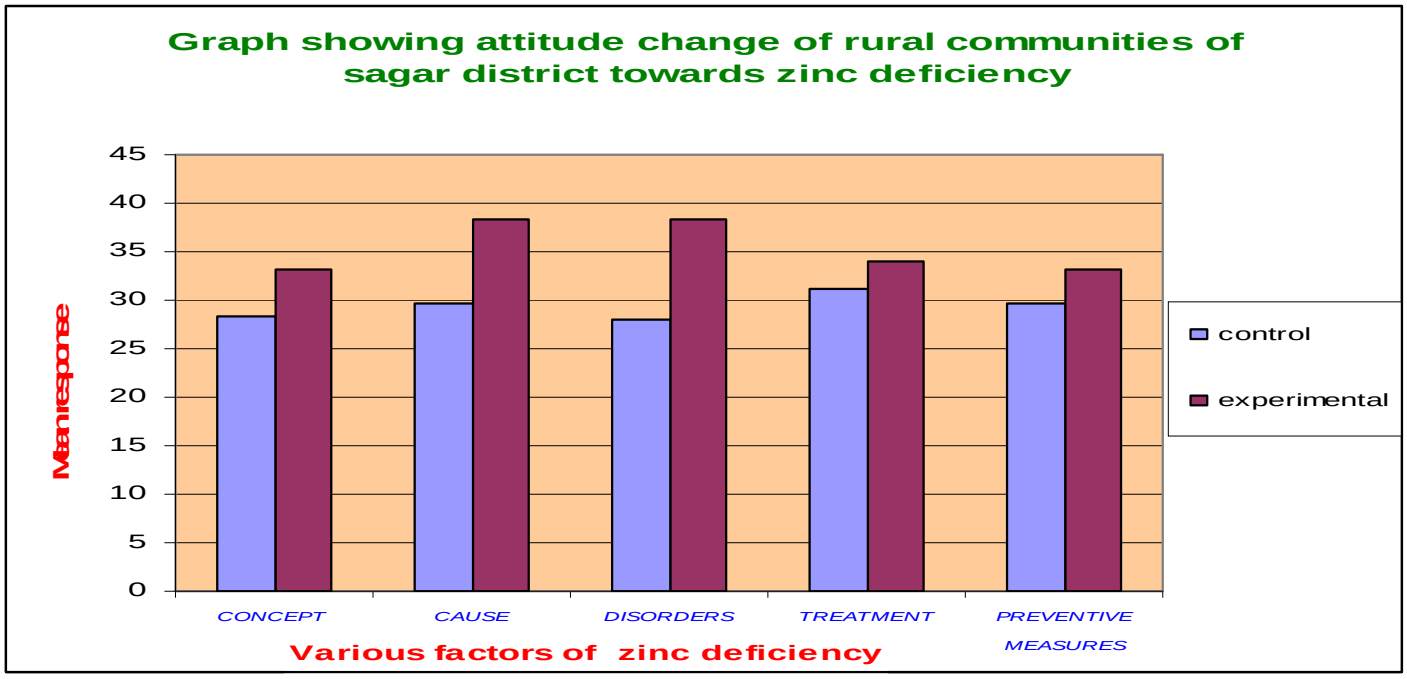

Figure 1. Showing attitude change of rural female communities of Sagar district towards zinc deficiency.

Conclusions

Thus from the above discussion it is concluded that:

(1) Teaching helps in developing awareness among females of Sagar district towards zinc deficiency
(2) Modern instructional aids are effective tools for developing awareness towards zinc deficiency.
(3) The development of awareness towards zinc deficiency is higher in case of experimental group than control group.
(4) Development of awareness towards various concepts of zinc deficiency through modern instructional aids based teaching is higher than lecture method group.
(5) The experimental method group gained more mean scores i.e. much awareness on various factors of zinc deficiency in comparison to the Control group.
(6) Although modern instructional aids provides favorable outcomes in the realm of developing awareness towards zinc deficiency, the role of traditional method of teaching for development of awareness could not ignored.

Recommendations

In the light of the findings of this study, the following recommendations are hereby presented:

(1) It is hereby recommended that teachers and researchers should be encouraged to use the modern instructional aids in order to develop awareness towards zinc deficiency.
(2) Research to map out prevalence of zinc deficiency as well as awareness and attitude towards zinc deficiency should be encouraged further.
(3) Children should be encouraged and trained to act as medium to spread awareness towards zinc deficiency to their family and community members.
(4) There should be in-service seminars and training of teachers on use of modern instructional aids like computers, projectors etc. for teaching their subjects.
(5) Programmes like Social Service Camps and Health campaigns should be organized during vacations in rural areas for developing awareness towards malnutritional deficiencies and hygiene.

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Welcome to Zinc World : file:///E:/zinc/Welcome%20to%20Zinc%20World%20-%20your%20Web%20Resource%20for%20all%20things%20Zinc%20-(imp).htm

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