

EFFECTIVENESS OF IEC PACKAGE REGARDING KNOWLEDGE OF ORAL HYGIENE AMONG THE ADOLESCENT STUDENTS OF HARYANA

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Received date: 28 May 2020

Revised date: 18 June 2020

Accepted date: 08 July 2020

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ABSTRACT

Background and aim: The important public health issue among adolescents is Poor oral health. Various studies have noted a high prevalence of dental problems among adolescents. In order to plan successful awareness programme it is essential to evaluate adolescent's knowledge related to oral hygiene at the school level. The aim of study was to assess the effectiveness of IEC package on knowledge of adolescents regarding oral hygiene in selected schools of Uchand, Jind, Haryana. **Materials and Methods:** This experimental study included 60 students of Govt. Girls Sr. Sec. School of Uchana selected by probability convenient sampling technique. Data were collected using a semi structured questionnaire and analyzed with Chi-square and student paired t test. **Results:** In pre-test, majority of the samples 18(60.00%) belongs to average level of knowledge with mean of 13 and 2.1 of standard deviation. Followed by 9(30.00%) with good level of knowledge, 23.77 of mean and 2.657 standard deviation. Followed by 3(10%) of poor knowledge with 9.33 mean and 0.471 standard deviation. In post-test, majority of the samples 27(90.00%) belongs to good level of knowledge with mean of 18.33 and 1.68 of standard deviation. Followed by 3(10.00%) with average level of knowledge, 18.33 of mean and 0.471 standard deviation. Followed by none of the sample belongs to poor level of knowledge. There is a significant association with the obtained knowledge score of adolescents regarding oral hygiene with the selected demographic variables such as Education and Occupation of the parents. **Conclusion:** This study shown that IEC Package had a significant effect in improving knowledge of adolescents regarding oral hygiene.

KEYWORDS: Effectiveness, IEC Package, Knowledge, Oral hygiene, Adolescents.

1. BACKGROUND OF THE STUDY

Adolescence is a stage in which general health is presented at its best, though it is a period of increased risk to oral health because of the greater independence with regard to the consumption of sugary foods and a certain revulsion regarding oral hygiene.^[1] Health education has been considered an important strategy to promote community health through the development of personal skills for self-care. Within this perspective and considering the weakness experienced in adolescence, it is necessary to develop educational measures on oral health in schools by means of programs capable of meeting the needs and characteristics of this portion of population.^[2]

2. INTRODUCTION AND NEED OF THE STUDY

Oral hygiene is the science and practice of the recognition, treatment, and prevention of oral diseases. Good oral hygiene is the foundation for a healthy mouth

and prevents 80% of all dental problems.³ Healthy oral cavity is of great significance for an individual's overall health and well-being. Further, it enables an individual to masticate, speak and socialize without any active discomfort or embarrassment.^[4] Oral disease is health problem of considerable burden which often leads to pain and more significantly tooth loss; a condition that affects the appearance, quality of life, nutritional intake and consequently the growth and development.^[5]

Dental caries and periodontal disease are amongst the most widespread oral conditions in human population, affecting from about 67.5% to over 80% of school children in some countries which amounts to a great health burden.^[6] Oral disease burden is higher among the poor population with an increase in developing countries. According to the report by the World Health Organization 2008, about 52.2% of the students visited their dentist when they had dental pain only. A study in Canada showed that nearly 50% of the students used

dental services once in every 6 months. A study done in Kenyan school children showed that 93% of the children used a toothbrush with toothpaste, 87% of the children knew that dental caries and periodontitis could be prevented. Oral hygiene practices are prevalent in different countries. For instance, tooth brushing is practiced, in Korea, 97% of Koreans brush their teeth once a day. While in India, about 69% of the population brushes their teeth. A survey in Pakistan showed that 36% of the population cleaned their teeth daily. In Saudi Arabia, 83% of school children used a toothbrush for oral hygiene while 16% used a chewing stick. However in Tanzania, it was reported that 92% of children did not brush their teeth every day.^[7]

Fortunately, many of the oral health problems are preventable and their onset is reversible. A number of factors namely; diet, smoking, alcohol, hygiene, stress and exercise are linked to a wide range of high morbidity diseases forming the fundamental basis of common risk factor approach of World Health Organization in order to prevent a range of conditions including oral diseases. Among these, hygiene is the single most significant factor when it comes to the prevention of oral diseases.^[8]

To improve oral health of the populations, World Health Organization has set the promotion of self care of as one of the goals for the year 2020. Recommended oral self care (ROSC) includes tooth brushing more than once a day, lesser consumption of sugar containing snacks once daily or rarely and regular use of fluoride containing tooth paste. Studies have shown that there is an association between increased knowledge regarding oral hygiene and better oral health.⁹

The young college students play a vital role in health promotion and preventive information dissemination among the family and their society. It is therefore important that their oral health knowledge is good. Apart from that, their oral health attitude and practices conforms to the expectation of the population.

OBJECTIVES OF THE STUDY

1. To assess the level of knowledge regarding oral hygiene among adolescent students in control group.
2. To assess the level of knowledge regarding oral hygiene among adolescent students in experimental group.
3. To assess the effectiveness of IEC package regarding oral hygiene in experimental group
4. To find out the association between the level of knowledge regarding oral hygiene among adolescent students with their selected socio- demographic variable.

Research Hypotheses

H1. There will be a significant difference between pre test and post test level of knowledge of adolescents regarding oral hygiene.

H2. There will be a significant association between the knowledge of adolescents regarding oral hygiene with selected demographic variable.

Assumptions

1. Adolescents will be having some knowledge regarding oral hygiene.
2. IEC Package may influence their knowledge in positive aspects.

Delimitations

1. The study is limited to a selected Sr.sec. School Uchana Jind.
2. This study is limited to 60 adolescents.

3. REVIEW OF LITERATURE

A cross-sectional exploratory study was planned to assess oral health knowledge and practices of secondary school students in Chandigarh, India. This survey was undertaken amongst 1027 secondary level school students. Survey revealed that only 40% subjects brushed twice daily. About 17% reported use of dental floss and 20% used either mouthwash or tongue cleaner as adjuncts. A total of 58% had knowledge that infrequent brushing led to dental caries, staining of teeth, dental plaque and bleeding from gums. Most of them knew sweets (92.7%) and soft drinks (67.8%) affected dental health. Only 12.9% visited dentist regularly after every 6-12 months. This study concludes that efficacy of dental health education can be increased only if health programs are tailored to directly impinge on attitudes of targeted population, especially school children in whom healthy practices can be inculcated easily and be sustained for long times.^[10]

A study was conducted in Bengaluru, India to assess the knowledge, attitude, and practices of oral hygiene among college students. A descriptive cross-sectional survey was conducted using a self-administered 21-item structured questionnaire that assessed oral health and hygiene knowledge, attitudes, and practices of 499 students from various professions. 202 engineering students, 99 MBA/BBM students, 99 nursing students, and 99 students from B.Com. Results revealed that the toothbrush with toothpaste is the most common oral hygiene aid used for cleaning teeth, which was adopted by 304 (60.9%) students. More than half 287 (57.5) of the students felt that dental caries affected their esthetics. 358 (71.7) students felt that the health of the mouth and dentition had an impact on the health of the body. This study concludes that the toothbrush with toothpaste is the most common oral hygiene aid used for cleaning teeth; it was observed that a greater number of students brushed their teeth in the morning. Dental pain was the main reason to visit a dentist.^[11]

A study was conducted to evaluate the effectiveness of school dental health education on the oral health status, oral health-related knowledge, and practice behavior of 6–12-year-old children. Results showed that among the 18 articles which fulfilled the eligibility criteria, six were randomized controlled trials (RCTs) and 12 were non-RCTs. Quality assessment showed that 12 trials had a low risk of bias. Oral health-related knowledge improved in children. Oral health-related practice behaviors such as frequency and duration of brushing improved. Use of fluoridated toothpaste was increased. Plaque scores and gingival bleeding scores reduced. This study concludes that school dental health education had a positive impact on the oral health status, knowledge, and practice behavior of children. There is a definite need for high-quality RCTs analyzing the effectiveness of school dental health education on specific oral health outcomes.^[12]

A study was conducted to assess the effectiveness of Oral Health Education program in: 1) increasing oral health knowledge, attitude, and practices and 2) decreasing the prevalence of untreated dental caries among 6–8 grade school students in Bangladesh. The total participants were 944 students from three local schools. At baseline, students were assessed for oral health knowledge, attitude and practices using a self-administered structured questionnaire and untreated dental caries was assessed using clinical examination. Follow up study was done after 6 months from baseline.

1. RESULTS AND INTERPRETATION

Table 1: Shows Mean, standard deviation of knowledge scores on IEC package regarding oral hygiene in pre test among adolescent students in experimental group.

level of knowledge	Experimental group			
	Frequency	Percentage	MEAN	Standard Deviation
Poor(0-10)	3	10.00%	9.33	0.471
Average-(11-20)	18	60.00%	13	2.1
Good-(21-30)	9	30.00%	23.77	2.657

The above table describes the knowledge scores on IEC package regarding oral hygiene among experimental group in pre test, majority of the samples 18(60.00%) belongs to average level of knowledge with mean of 13

Results revealed that significant improvement was observed regarding school aged adolescents' self-reported higher knowledge, attitude and practices scores ($p < 0.001$) at follow-up compared with baseline. This study indicated that OHE intervention was effective in increasing i) knowledge, ii) attitude, and iii) practices towards oral health; it also significantly reduced the prevalence of untreated dental caries among school aged adolescents from grade 6–8 in a deprived rural area of Bangladesh.^[13]

4. METHODOLOGY

- **Research approach:** Quantitative approach
- **Research design:** Pre experimental one group pre-test post-test design will be adopted for this study
- **Variables**
- **Independent variables:** IEC Package
- **Dependent variables:** Knowledge of adolescent regarding Oral hygiene.
- **Setting of the study:** Govt. Sr sec. School of Jind, Haryana.
- **Population:** Adolescent who are studying in Govt.sr sec. school of jind, Haryana.
- **Sample:** Adolescent who fulfil the inclusion criteria will be consider as a sample.
- **Sample size:** Sample size consists of 60 adolescent studying at Govt.sr sec. school of jind, Haryana.
- **Sampling Technique:** Convenient sampling technique had been used for selection of the subject

and 2.1 of standard deviation. Followed by 9(30.00%) with good level of knowledge, 23.77 of mean and 2.657 standard deviation. Followed by 3(10%) of poor knowledge with 9.33 mean and 0.471 standard deviation.

Table 2: Shows Mean, standard deviation of knowledge scores on IEC package regarding oral hygiene in post test among adolescent students in experimental group.

level of knowledge	Experimental group			
	Frequency	Percentage	MEAN	Standard Deviation
Poor(0-10)	0	0.00%	0	0
Average-(11-20)	3	10.00%	18.33	0.471
Good-(21-30)	27	90.00%	24.48	1.68

The above table describes the knowledge scores on IEC package regarding oral hygiene among experimental group in post test majority of the samples 27(90.00%) belongs to good level of knowledge with mean of 18.33

and 1.68 of standard deviation. Followed by 3(10.00%) with average level of knowledge, 18.33 of mean and 0.471 standard deviation. Followed by none of the sample belongs to poor level of knowledge.

Table 3: Shows Mean standard deviation of knowledge scores on oral hygiene in pre test among adolescent students in Control group.

	control group			
level of knowledge	Frequency	Percentage	MEAN	Standard Deviation
Poor(0-10)	20	66.67%	8.395	1.19
Average-(11-20)	10	33.33%	14.5	2.6551
Good-(21-30)	0	0.00%	0	0

The above table describes the knowledge scores regarding oral hygiene among control group in pre test, majority of the samples 20(66.67%) belongs to poor level of knowledge with mean of 8.395 and 1.19 of

standard deviation. Followed by 10(33.33%) with average level of knowledge, 14.5 of mean and 2.651 standard deviation. Followed by none of the sample belongs to good level of knowledge.

Table 4: Shows Mean, standard deviation of knowledge scores on oral hygiene in post test among adolescent students in Control group.

	control group			
level of knowledge	Frequency	Percentage	MEAN	Standard Deviation
Poor(0-10)	2	6.67%	9.5	0.5
Average-(11-20)	28	93.33%	16.785	2.02
Good-(21-30)	0	0.00%	0	0

The above table describes the knowledge scores regarding oral hygiene among control group in post-test, majority of the samples 28(93.33%) belongs to average level of knowledge with mean of 16.785 and 2.02 of

standard deviation. Followed by 2(6.67%) with poor level of knowledge, 9.55 of mean and 0.5 standard deviation. Followed by none of the sample belongs to good level of knowledge.

Table 5: Comparison of mean, standard deviation among adolescent girls between pre test and posttest scores in experimental group and control group using paired t test.

Reference group	pre-test		post-test		paired test
	mean	standard deviation	mean	standard deviation	
Experimental Group	16.53	2.44	23.866	2.445	1.627 df-58
Control Group	14.533	3.922	16.33	2.6727	2.0738 df-58

The above table describes the knowledge scores regarding oral hygiene among adolescents in pre-test and post-test experimental group with mean 16.53, 23.866 and standard deviation of 2.445 2.445 with df 58 of

11.627 t test score. Control group with mean 14.53, 16.33 and standard deviation of 3.92, 2.677 with df 58 of 2.0738 t test score.

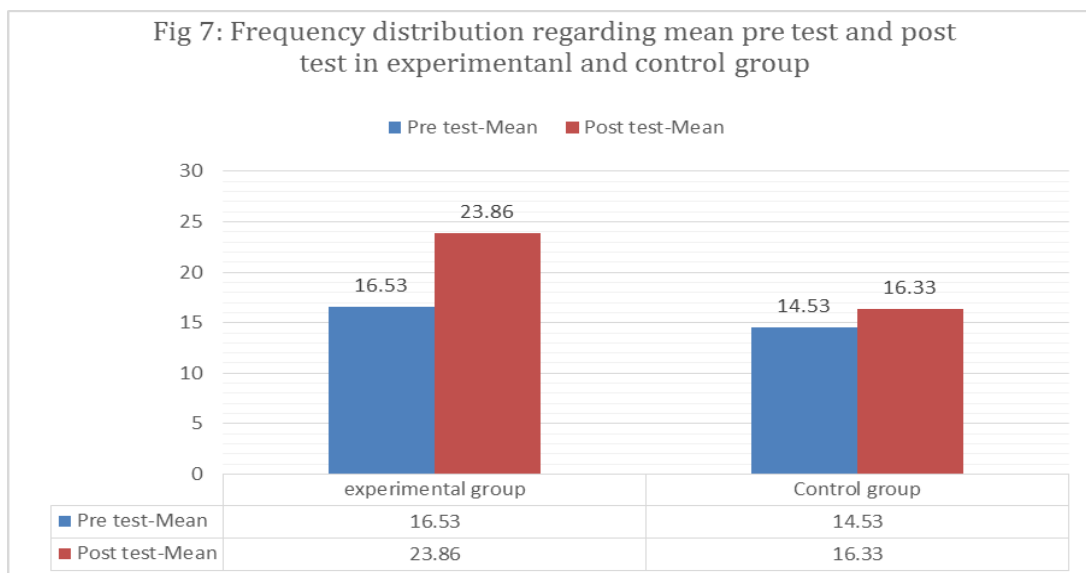


Table 6: Showing the association of demographic variables on knowledge scores of experimental groups. Education and occupation of parents were having association with the obtained knowledge scores, remaining factors such as Age, Sex, Religion and education of parents were not shown any significant association with the knowledge scores of adolescents.

S. No	Demographic Variables	Chi Square	'P' Value	df	Level of Association
1.	Age	3.072	0.5459	4	NS
2.	Sex	1.088	0.5804	2	NS
3.	Education of the student	0.069	0.9662	2	S
4.	Religion	1.277	0.5281	2	NS
5.	Education of the parents	1.091	0.9819	6	NS
6.	Occupation of parents	8.117	0.2297	6	S

Nursing Implications

The findings of the study will help the investigator in the following ways:

- Gaining the more knowledge regarding Oral Hygiene.
- Encourage the students to improve their knowledge regarding Oral Hygiene.

Nursing Education

The nurses play a key role in educating people regarding Oral hygiene to children in Hospitals and schools. Increasing awareness and understanding of the phenomena among the general population will result in high level of Oral hygiene and that will spontaneously reduces the morbidity of children due to problems of oral cavity. The investigator as a nurses felt the need that nurses should act as facilitators to educate adolescents, teachers, general population, and clinical patients regarding the oral hygiene.

Nursing Research

Nurses being the largest group in health care delivery system should take initiative to conduct further research studies in Oral hygiene. The study will motivate the beginning researcher to conduct same study with different variables on a large scale considering individual aspects. The public and private agencies should also encourage research in this field through materials and funds. The findings of the present study are helpful for the nursing professionals and nursing teachers to conduct further studies to find out the effectiveness of various methods of providing education on improving the knowledge regarding Oral hygiene.

Nursing Administration

Nurse administrator should take interest in motivating the nursing personnel to improve their professional knowledge and skill by attending the workshops, conferences, seminars on Oral hygiene. Nurse administrator should arrange regular in service education program to the health care workers for gaining knowledge. The nurse administrators should explore their potentials and encourage innovative ideas in the dental care of adolescents.

Nursing Practice

Nurse owes a great responsibility in educating the people regarding oral hygiene. Nurses by getting knowledge and impact into their clinical practice. Many nurses can conduct evidence base nursing practice by referring to these results. Nurses can use to assess the level of knowledge regarding oral hygiene in clinical as well as in community settings that will play a vital role in reducing the morbidity of dental origin.

Recommendations

On the basis of findings following recommendations are offered for further research:

- A similar study can be conducted in large sample in different areas.
- A study to assess the practice and attitude of adolescents regarding oral hygiene can be studied.
- A comparative study can be conducted in different setting like rural and urban schools.
- A video teaching programme can be conducted in large scale to the adolescent of selected colleges in Haryana to improve oral hygiene

CONCLUSION

This study concludes that, adolescent were having inadequate knowledge before administering IEC Package but after administering IEC Package the knowledge was moderately adequate. Demographic variables were having association with pre-test in education and occupation of parents. This study can finally say that adolescents knowledge level increases through IEC Package.

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