International Journal of Research Studies in Biosciences (IJRSB)
Volume 3, Issue 12, December 2015, PP 53-61
ISSN 2349-0357 (Print) & ISSN 2349-0365 (Online)
www.arcjournals.org

Effect of an Oral Care Educational Program on the Knowledge, Practice and Self-Efficacy Among School Age Children

Nagwa Rizk Mohammed Abu-Elenen[1], Nabila Hassan Ali Abdella[2], Rehab Hani Elkazaz[3]

[1.2.3]Lecturers Department of Pediatric Nursing, Faculty of Nursing, Port Said University, Egypt
Nagwarizk99@gmail.com[1], Nabillaabedella@yahoo.com[2], Rehabhani@yahoo.com[3]

Abstract: *Oral care is only the tip of the iceberg of oral health literacy. For oral care instruction to be successful in improving oral hygiene practices, the recipient of this instruction must already have an orientation toward oral health promotion. The aim of the study was to evaluate the effect of an oral care educational program on the knowledge, practice and self-efficacy among school age children. This quasi-experimental study was implemented on 203 students in General primary schools in Port-Said city. A structured interview questionnaire form was used to collect data regarding children`s characteristics, knowledge regarding oral care, and their self-efficacy. An educational program was designed based actual assessment of knowledge, practice and self-efficacy regarding oral health among school age children. The evaluation of the program was done by comparing pre, immediately post to 3-months follow the program intervention. The fieldwork was carried out over a period of 12 months starting in the first week of September 2013 through the last week of August 2014. The results demonstrated that there were statistical significance relation between children's total knowledge, practice and self- efficacy with p <0.001 in pre, post and follow – up for each. The study concluded that training program has a positive impact on the children`s knowledge, practice and self-efficacy regarding their oral care. Hence, similar training programs should be implemented in similar settings. Further confirmatory research is suggested to reinforce dental checkup to prevent dental problems among children.*

Keywords: *oral care, knowledge, practice, self-efficacy and school age children*

1. INTRODUCTION

Oral health care is a mirror for general health and well-being; it is a human right and an integral part of general health. Oral health care is fundamental to general health and well-being and significantly impacts children`s quality of life **(Audrey et al., 2014 and Huskinson & Lloyd, 2009)**

Oral hygiene is defined as an intervention to prevent plaque related disease including care of oral mucosa, tongue, teeth, lips, gums and dentures to maintain the mouth in good oral condition that is comfortable, clean, moist and free of infection **(Naoki & Manabu, 2012 and O'Connor, 2012).** While **Vinay et al., (2013)**defines oral health as ' a state of being free from mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) disease, tooth decay, tooth loss, and other disease and disorders that limit an individual capacity, emptying, chewing, smiling, speaking and psychosocial wellbeing **(Morita et al., 2010).**

Actions of individuals are associated with both outcome and efficacy expectations. Thus, self-efficacy is an important factor for predicting individual action and controlling subsequent emotional responses. Self-efficacy relates to the belief in one's general confidence to accomplish the actions necessary to reach a goal. When applied to the clinical setting, self-efficacy refers to a child`s perception of his or her ability to perform the actions needed to improve and maintain their health. Self-efficacy has predicted a range of health behaviors including oral self-care **(Kakudate et al 2010 and Martin et al., 2010).**

Children`s attitudes toward oral health care is built on experience and information acquired from different sources including parents, teachers, electronic and printed media **(Branden, 2013 and Shearer et al., 2011)**. **Buglar et al (2010)** reported that children with a high sense of self-efficacy persisted longer and were more successful on difficult tasks than children with low self-efficacy. Children with a stronger sense of self-efficacy able to manipulate problems and chose to rework more problems than children of the same ability who maintained a low sense of self-efficacy **(Oras, 2011 and Vann et al., 2010).**

Health care professional recommended regular brushing twice a day (in the; morning, evening and\ or after meals) in order to prevent formation of plaque and tartar, that because if bacterial plaque is not swept away from teeth and gums it eventually becomes calculus; a hard yellowish deposit formed from plaque that is not removed. By maintaining good oral hygiene and dental care, the pediatric nurse can prevent occurrence of many disease in school age children. Therefore, the present study will be conducted to shed light on the oral hygiene and dental care among school age children **(Weintraub et al., 2010 and Alm et al., 2009)**

2. SUBJECT AND METHODS

2.1. Design and Setting

A quasi-experimental study was used in carrying out the study in the governmental primary schools at Port-Said city.

2.2. Sample

The study sample consisted of 203 students. They were recruited consecutively with criteria of school age children in the age group of 10 -12 years regardless their gender and residence area in addition to fulfill the required sample size. This was calculated to estimate a prevalence of school age children in the age group of 10-12 years of 31.08%, with 1% standard error, at 95% confidence level taking into account an expected dropout rate of about 15% **(Dobson, 1984),** and with a finite population correction using Epi-Info computer software package.

2.3. Data collection tools

A structured interview questionnaire form composed of three parts was used to collect the data. The first part served to collect demographic characteristics of the parents such as education, job status, and family crowding index. It also involved child's demographic characteristics (age, gender, and rank) and dental care data (definition, regularity of tooth care, and causes of tooth decay).

The scores of knowledge practice and self-efficacy summed and converted into a percent score. The children`s knowledge was considered as good if the percent score was more than 66.6%, fair if percent score was 33.3%to 66.6% and poor if less 33.3%. The second part was observational checklist about oral hygiene. It is a 10-steps developed by the researchers guided by (Hockenberry and Wilson, 2008) to assess children`s oral care. The practice considered good if the percent score was 75% or higher, fair if percent score was 50% to 74.9%, and poor if less 50%. The third part of the tool consisted of the self-efficacy scale. It is a 10-item developed by (Schwarzer, & Jerusalem, 2004) and modified by the researcher. Student are asked to rate each item on a four -point scale ranging from Not at all true to exactly true. These were scored 1 to 4 respectively. Children`s self-efficacy considered high if their percent score was higher than 66.6%, moderate if percent score was 33.3% to 66.6%, and low if less 33.3%.

2.4. Pilot study

The developed tool was reviewed by a panel of experts in nursing and medicine field. Then, a pilot study was carried out on a sample of students from other primary schools to test the clarity also reliability of the tool and feasibility of the study. The first, second and third tools reliability were tested through assessing its internal consistency, and proved high (Cronbach alpha coefficient 0.81, .88 and 92 respectively).Needed modifications were done in the form of re-phrasing of some items. The pilot subjects were not included in the main study sample.

2.5. Fieldwork

An official letter from the Faculty of Nursing, Port Said University was addressed to the General Directors of the governmental primary schools, and permissions were obtained to conduct the study. The researchers met with students in classrooms and explained to them the purpose of the study. Parents' oral consents were obtained before any student participated in the study. The actual fieldwork was carried out over a period of 12 months starting in the first week of September 2013 through the last week of August 2014.

2.6. Development of the program

Based on the results of the pre assessment the oral care-training program was developed as well as the time schedules and teaching sessions. An educational program was designed by the researcher based actual assessment of knowledge, practice and self-efficacy regarding oral hygiene among school age children in the light of the available researches and literature. The intervention was developed in a simple Arabic language to cover the relevant theoretical and practical aspects of the oral health

among school age children. Different teaching methods as lecture, discussion, demonstration, and re demonstration, was used. Also different assisting learning methods were used as pamphlets, small books, show pictures, posters, and real equipment. The intervention was implemented in small groups (12-13) child in each group. The program was implemented in 2 sessions weekly. Each session was taken about one hour, 1st session included knowledge about dental care data (definition, importance of oral care, and causes of tooth decay) and practices regarding oral care (regularity of tooth care, exact time of tooth brush and the main equipment for tooth brush) and the 2nd session included observational checklist about oral care. The total duration of the program was 32 hours. The weekly sessions were conducted for 2 groups and each group according to their available times. Each child was assessed for his/her understanding of the instructions. The impact of the program was based on the improvement of the knowledge, practice and self-efficacy regarding oral health among school age children. Each child was re-interviewed immediately and follow 3 months after the implementation of the program to assess the children`s knowledge, practice and self-efficacy regarding their oral hygiene.

2.7. Ethical considerations

The purpose of the study was explained to each student before carrying out the study and his\her oral consent to participate in the study was obtained. Confidentially of the data was ensured and the collection tools were anonymous.

2.8. Data analysis

Data was collected and entered into a database file. Statistical analysis was performed by using the SPSS 16 computer software statistical package. Data was described by summary tables and figures. For comparing the (Knowledge, practice and self-efficacy) with socio-demographic characteristics, Chi2 test was used. Statistical significance was considered at P-value <0.05 and highly significance at P-value <0.00

3. RESULTS

Table 1: Socio demographic characteristics of studied children

Child characteristics	No	%
Age of the child		
▪ 10 to less than11 years	65	32.0
▪ 11 to less than12 years	85	41.9
▪ 12 yrs	53	26.1
Rank of child		
▪ First	67	33.0
▪ 2 nd	77	37.9
▪ 3 rd	51	25.1
▪ 4rth or more	8	3.9
Father education		
▪ Illiterate	18	8.9
▪ read and write	11	5.4
▪ primary school	24	11.8
▪ prep school	50	24.6
▪ secondary	54	26.6
▪ university / more	46	22.7
Mother education		
▪ illiterate	19	9.4
▪ read and write	19	9.4
▪ primary	16	7.9
▪ prep school	53	26.1
▪ secondary	57	28.1
▪ university	39	19.2
Father occupation		
▪ work	168	82.8
▪ don`t work	35	17.2
mother occupation		
▪ Work	85	41.9
▪ house wife	118	58.1

Table 1 shows Socio demographic characteristics of studied children. Regarding the children`s age, less than half of the children their age ranged from 11 to less than12 years. In relation to the parent`s education about one third of the fathers and mothers have secondary school education (26.6%, 28.1% respectively). Finally, the majority of children`s fathers have work, while more than half of children`s mothers were housewives (82.8% and 58.1% of them respectively).

Table2. *Percent distribution of children`s oral care practices in before, immediately after and follow up the program intervention*

Oral care practices		Phase						P
		Pre		Immediate		Follow-up		
		No	%	No	%	No	%	
Regularity of teeth brush	Never	49	24.1	45	22.2	41	20.2	0.528
	Always	73	36.0	82	40.4	79	38.9	
	Usually	81	39.9	76	37.4	83	40.9	
Availability of teeth brush	Yes	168	82.8	172	84.7	177	87.2	0.325
	No	35	17.2	31	15.3	26	12.8	
Numbers of daily brushing teeth	once	36	17.7	32	15.8	31	15.3	0.118
	twice daily	60	29.6	55	27.1	54	26.6	
	three daily	43	21.2	56	27.6	66	32.5	
	more than three	6	3.0	6	3.0	10	4.9	
	never	58	28.6	54	26.6	42	20.7	
Time of brush teeth	after eating	32	15.8	27	13.3	27	13.3	0.395
	after waking up	43	21.2	40	19.7	49	24.1	
	before sleep	48	23.6	45	22.2	42	20.7	
	all of the above	21	10.3	36	17.7	33	16.3	
	never	59	29.1	55	27.1	52	25.6	
Suffering from dental decay	yes	111	54.7	107	52.7	60	29.6	0.001 *
	No	92	45.3	96	47.3	143	70.4	
visiting dentist	yes	75	36.9	69	34.0	83	40.9	0.251
	No	128	63.1	134	66.0	120	59.1	
causes of dental visit	dental decay	24	32.0	21	30.4	20	24.1	0.078
	pain in gums	25	33.3	23	33.3	22	26.5	
	oral thrush	16	21.3	16	23.2	16	19.3	
	check up	10	13.3	9	13.0	25	30.1	
School absenteeism due to teeth problems	usually	74	36.5	21	10.3	56	27.6	0.001 *
	always	65	32.0	51	25.1	17	8.4	
	never	64	31.5	131	64.5	130	64.0	

*P: Friedman test for related samples * P < 0.05 (significant)*

It is evident from table 2 that there were statistically significant differences regarding children's practice in pre, immediately and follow up in relations to Suffering from dental decay and absenteeism from the school due to teeth problems p< 0.001. Only 13.3% of children tends to take care of their teeth and visit dentist for checkup pre and immediate the program implementation for each, this percentage was improved to 30.1 % of them in the follow up phase.

Table3. *The relationship between the program intervention and the children`s total knowledge, practices and their self-efficacy.*

Item	Phase						P
	Pre		Immediate		Follow-up		
	No	%	No	%	No	%	
Knowledge total							0.001*
Poor (<33.3%)	47	23.2	36	17.7	34	16.7	
Fair (33.3-66.6%)	95	46.8	60	29.6	77	37.9	
Good (>66.6 %)	61	30.0	107	52.7	92	45.3	
Practice total							0.001*
Poor (<50%)	179	88.2	59	29.1	81	39.9	
Fair (50-74.9%)	19	9.4	48	23.6	42	20.7	
Good (≥75%)	5	2.5	96	47.3	80	39.4	
Self-efficacy total							0.001*
Low (<33.3%)	17	8.4	13	6.4	1	0.5	
Moderate (33.3-66.6%)	178	87.7	142	70.0	50	24.6	
High (>66.6%)	8	3.9	48	23.6	152	74.9	

*P: Friedman test for related samples * P < 0.05 (significant)*

Regarding the relationship between the program intervention and the children`s total knowledge, practices and their self-efficacy, table 3 indicated that there were highly statistical significance relation between children's total knowledge, total practice and self- efficacy with p <0.001 in pre ,post and follow – up the program implementation .

Table4. *The relationship between the children`s total knowledge and their socio demographic characteristics.*

Child characteristics	Knowledge total						*MCP*
	Poor		Fair		Good		
	No	%	No	%	No	%	
Age of the child							
▪ 10 years	17	26.2	28	43.1	20	30.8	0.568
▪ 11 yrs	20	23.5	37	43.5	28	32.9	
▪ 12 yrs	10	18.9	30	56.6	13	24.5	
Rank of child							
▪ First	17	25.4	30	44.8	20	29.9	0.938
▪ 2 nd	17	22.1	38	49.4	22	28.6	
▪ 3 rd	10	19.6	24	47.1	17	33.3	
▪ 4rth or more	3	37.5	3	37.5	2	25.0	
Father education							
▪ Illiterate	8	44.4	7	38.9	3	16.7	0.065
▪ read and write	0	0.0	8	72.7	3	27.3	
▪ primary school	5	20.8	11	45.8	8	33.3	
▪ prep school	16	32.0	25	50.0	9	18.0	
▪ secondary	10	18.5	22	40.7	22	40.7	
▪ university / more	8	17.4	22	47.8	16	34.8	
Mother education							
▪ illiterate	7	36.8	6	31.6	6	31.6	0.561
▪ read and write	4	21.1	9	47.4	6	31.6	
▪ primary	4	25.0	8	50.0	4	25.0	
▪ prep school	13	24.5	29	54.7	11	20.8	
▪ secondary	13	22.8	27	47.4	17	29.8	
▪ university	6	15.4	16	41.0	17	43.6	
Father occupation							
▪ work	34	20.2	78	46.4	56	33.3	0.002*
▪ don`t work	13	37.1	17	48.6	5	14.3	
mother occupation							
▪ Work	19	22.4	39	45.9	27	31.8	0.900
▪ house wife	28	23.7	56	47.5	34	28.8	

*MCP: P value based on Mont Carlo exact probability * P < 0.05 (significant)*

Table 4 showed that there were highly statistical significant relation between the children`s total knowledge and their father occupation with p< 0.002. The highest percentage among children with good knowledge their age was 11 years, their mothers have university education also worked (32.9%, 43.6% and 31.8%) respectively.

Table5. *The relationship between children`s total practices and their socio demographic characteristics.*

Child characteristics	Practice total						*MCP*
	Poor		Fair		Good		
	No	%	No	%	No	%	
Age of the child							
▪ 10 years	60	92.3	3	4.6	2	3.1	0.534
▪ 11 yrs	72	84.7	11	12.9	2	2.4	
▪ 12 yrs	47	88.7	5	9.4	1	1.9	
Rank of child							
▪ First	52	77.6	11	16.4	4	6.0	0.057*
▪ 2 nd	73	94.8	4	5.2	0	0.0	
▪ 3 rd	46	90.2	4	7.8	1	2.0	
▪ 4rth or more	8	100.0	0	0.0	0	0.0	

Father education							
▪ Illiterate	18	100.0	0	0.0	0	0.0	
▪ read and write	8	72.7	2	18.2	1	9.1	
▪ primary school	19	79.2	4	16.7	1	4.2	0.245
▪ prep school	42	84.0	7	14.0	1	2.0	
▪ secondary	52	96.3	1	1.9	1	1.9	
▪ university / more	40	87.0	5	10.9	1	2.2	
Mother education							
▪ illiterate	18	94.7	1	5.3	0	0.0	
▪ read and write	16	84.2	3	15.8	0	0.0	
▪ primary	13	81.3	2	12.5	1	6.3	0.943
▪ prep school	46	86.8	5	9.4	2	3.8	
▪ secondary	51	89.5	5	8.8	1	1.8	
▪ university	35	89.7	3	7.7	1	2.6	
Father occupation							
▪ work	149	88.7	14	8.3	5	3.0	0.338
▪ don`t work	30	85.7	5	14.3	0	0.0	
mother occupation							
▪ Work	77	90.6	6	7.1	2	2.4	0.628
▪ house wife	102	86.4	13	11.0	3	2.5	

MCP: P value based on Mont Carlo exact probability ** P < 0.05 (significant)*

It is reveled from Table 5 that there were statistical significant relation between the children`s total practice and rank of child with p< 0.057, the same table indicated that about all students whose their father and mother were illiterate have poor practice regarding to oral care (100 % and 94.7%) respectively.

4. DISCUSSION

The school population of today is the adult of tomorrow; those children should be educated, so that a sense of responsibility would develop among school age children about oral health. Exploring the links among clinical conditions, their personal and social outcomes not only promote a more complex appreciation of oral health, but also provides the opportunity to identify interventions to curtail the consequences of oral diseases by conducting school dental health programs.

The present study intended to provide such information to school age. The emphasis was placed on describing the level of oral health knowledge, practice and self –efficacy of children and highlighting the impact of the oral health education program. The present study revealed that 21.2 % of students performed the recommended practice of brushing teeth trice daily but after program the percentage improved to 27.6% & 32.5% immediately and follow up respectively. These findings could be attributed to the oral care practice of students seemed to be more frequent observed after program. This response was expected because the children have good knowledge about oral care and high self-efficacy after program. The results of the study of **Ogundale et. al. 2008** among Nigerian children and **Maderazo & delos 2014** were in agreement with the results of the present study .These findings of the present study were contrary to the study of **Padlan 2013** to the school children of Dagupan City in which they reported that the respondents were not brushing their teeth regularly .

In relation to causes of visit dentist the majority of children were found that they visit dental clinic only when they have dental pain however comparatively few of students (13.3%) had reported dental checkup .This might be due to lack of parental encouragement and advice to visit the dentist might also contribute to irregular dental attendance, lack of parents' regular dental attendance might be reflected on their children. Pain was the main reason for visiting the dentist and agree with other study by **Rajab etal., 2002.** Study by **AL Omiri et.al , 2005** also proved in their study that pain is the main driving factor for the student to visit the dentist.

The present study indicated that there were statistically significance association between the children's practice in pre ,immediately and follow up regarding to suffering from dental decay. In the present study, the overall caries prevalence was 54.7 % pre-program. The high caries prevalence in the school children indicates the immensity of oral health problems. These findings might be due to these children belongs to the higher strata of society, their access to refined sweets and candies are high and their snacks would be mostly to locally made high sugar refined sweets. They would also be

not taking harder and fibrous food stuffs, which may explain the high caries prevalence. The present results were similar to the results obtained by **Dhar 2007 & Sudha 2005,** who carried out in 7-9 years old children in Tanzania and found that dental caries was more prevalent and severe in school children.

The present study indicated that there were statistically significance improvement in the children's practice in pre ,immediately and follow up in relations to the absenteeism from the school due to teeth problems. The findings in this study were attributed to the fact that if the child doesn't maintain adequate health, the benefits of education will be lost because of absenteeism or lack of attention due to ill health **(Minor, 2011 and Zahra, 2010)**.

Table (3) the results of this study showed that oral care knowledge and practice were good and significantly after immediately & follow up program. These results supported by researchers **Shenoy & Sequeira 2013, Ahn & Yi, 2010 and Son, 2003** who showed that the application of oral health programs for children is effective for improving dental health knowledge and practice. These results may be due to apply practice program intervention by attractive methods for children under researchers' guidance. The important result was that perceived self – efficacy related to program intervention for the students about oral care was highly significantly association. These findings would be attributed to the fact that; the important point which concerned to oral care was the practice and the knowledge that made the children self-efficacy. These results were similar to the study results of **De Selva Sanigorski et al., 2012 and Hong, 2006** that researched on 4th to 6th grades which showed main variable that explains the behavior of children's health improvement to be self –efficacy .Also , the study results by **Yi & Hyun 2009** in which it showed that higher oral care knowledge , practice and better behavior were resulted as self-efficacy on oral care.

The study results revealed that there were significance association between student`s total knowledge about oral care and their father occupation. These results might be due to parents who have occupation were mostly had income, this made proportionately more use of health service, subsequently had sufficient knowledge about oral care. These results disagree with study conducted by **Clarkson et al., 2009 and Dao, 2008** showed that there no significant association between occupation of parents and oral care of children.

The present study showed that about all students who's their father and mother were illiterate have poor practice regarding to oral care. Oral health practices were also found to be related to the mothers' educational level, which reflects the family socio-economic class. Oral hygiene status was poor in 94.8% of second rank of children as compared to other ranks of children, and the differences were statistically significant between rank of child and total practice. These variations between ranks of child may be attributing to behavioral differences. These findings also, could be due to parent's dental awareness that is reflected in the child's oral hygiene maintenance and the educational level of the family members. Finally, the primary schools also have great potential for influencing oral care, dental practice and self-efficacy of young children who spend considerable time in schools and can be reached at life.

5. CONCLUSION AND RECOMMENDATION

The study concluded that training program has a positive impact on the children`s knowledge, practice and self-efficacy regarding to their oral care. Hence, similar training programs should be implemented in similar settings. Further confirmatory research is suggested to reinforce dental checkup to prevent dental problems among children periodically.

REFERENCES

[1] AhnY. and Yi G. (2010). Application of dental health program for elementary school children. Journal of Korean Academy of Child Health Nursing, 16(1), 49-55.http://dx.doi.org/10.4094/jkachn.2010.16.1.49

[2] Al- Omiri M., Board J., Al-Wahadni A and Saeed K.(2005) . Oral health attitudes, knowledge and behavior among school children in North Jordan. Journal of Dental Education ;70 (2):179- 87

[3] Alm A, Wendt L., Koch G. and Birkhed D. (2008). Oral hygiene and parent-related factors during early childhood in relation to a proximal caries at 15 years of age. Caries Res; 42:28-36.

[4] Audrey P., Miller j., Chanadra Y. and Michelle K. (2014). Denial or decay? The effects of an oral health educational program on caregivers of preschool children. Journal of Nursing Education and Practice, Vol. 4, No. 1

[5] Branden S. (2013). Oral health promotion in preschool children, Doctoral thesis in Biomedical Sciences. Department of Public Health and Primary Care, Faculty of Medicine, University of Leuven

[6] Buglar M., White M. and Natalie G. (2010). The role of self-efficacy in dental patients' brushing and flossing: Testing an extended Health Belief Model. Patient Education and Counseling, 78. pp. 269-272.

[7] Clarkson J., Young L., Ramsay C., Bonner B., and Bonetti D. (2009). How to influence patient oral hygiene behavior effectively. J Dent Res, 88, 933–937, 0022-0345

[8] Dao N. (2008). Oral health status and related factors among primary school children in soc son district, Hanol city, Vietnam (M.P.H.M Thesis in primary health care management) . Faculty of graduates studies, Mahidol University.

[9] De Silva-Sanigorski A., Ashbolt R., Green J., Calache H., Keith B., Riggs E. and Waters E. (2012). Parental self-efficacy and oral health-related knowledge are associated with parent and child oral health behaviors and self-reported oral health status. Community Dent Oral Epidemiol

[10] Dhar V., Jain A., Van T. and Kohli A. (2007). Prevalence of dental caries and treatment needs in school going children of rural areas in Udaipur district. J Indian Soc Pedo Prev Dent. September: 119-121.

[11] Dobson A. (1984): Calculating sample size, Trans Menziez Foundation 75- 79.

[12] Hockenberry M, and Wilson D., (2008). Wong`s essentials of pediatric nursing 8 th ed New York: Elsevier.

[13] Hong Y. (2006). A structural model for health promotion on 6th grade elementary school students in Korea. Journal of Korean Academy of Community Health Nursing, 17 (1), 102 – 111.

[14] Huskinson W. and Lloyd H. (2009). Oral health in hospitalized patients: Assessment and hygiene. Nurs Standard.; 23(36): 43-7. PMid:19514205

[15] Kakudate N., Morita M. and Yamazaki S. (2010). Association between self-efficacy and loss to follow-up in long-term periodontal treatment. J Clin Periodontol, 37, 276–282, 0303-6979

[16] Maderazo N. and Delos R. (2014). Knowledge, Attitude and Practices on Oral Health of Public School Children of Batangas City .Asia Pacific Journal of Multidisciplinary Research Vol. 2, No. 4| August

[17] Martin L., Haskard K. and DiMatteo M. (2010). Health behavior change and treatment adherence: evidence based guidelines for improving healthcare (1 edition), Oxford University Press, 0195380401, New York City

[18] Minor B. and Sivakumar N. (2011). Oral Hygiene Status of 7-12 year old School Children in Rural and Urban population of Nellore District journal of the Indian association of public health dentistry.ISSUE:18 SUPPL. III

[19] Morita M., Kakudate N., Chiba I. and Kawanami M. (2010). Assessment and enhancement of oral care self-efficacy, Nova Science Publishers, New York City.

[20] Naoki K. and Manabu M. (2012). Association between Self-Efficacy and Oral Self-Care Behaviours in Patients with Chronic Periodontitis, Pathogenesis and Treatment of Periodontitis. Available from: http://www.intechopen.com/books/pathogenesis-andtreatment-of-periodontitis/association-between-self-efficacy-and-oral-self-care-behaviors-in-patients-withchronic- periodontiti

[21] O'Connor L. (2012). Oral health care (4th Edition), Springer, New York.

[22] Ogundale B. and Ogunsile S. (2008). Dental health knowledge, attitude and practice on the occurrence of dental caries among adolescent in the local government area (LGA) of Oyo State, Nigeria, Asian Journal of Epidemiology 1(2):64-71.

[23] Oras A. (2011). Role of Acculturation, Social Capital and Oral Health Literacy on Access to Dental Care among Preschool Children of Arabic-Speaking Immigrants in Toronto, Canada.

Master thesis of Science in Dental Public Health Graduate Department of Dentistry University of Toronto

[24] Padlan E. (2013). Oral Hygiene Habits of Grade 1 Pupils at the Bocayao Sur Elementary School in Relation to Dental Caries, The Journal of the Philippine Dental Association, Volume 63 No. 1:43- 68.

[25] Rajab L., Petersen P. and Bakeen G. (2002). Oral health behaviour of school children and parents in Jordan Int J Pediatr Dent;12(3):168-76.

[26] Schwarzer, R., & Jerusalem, M. (2004). General self-efficacy scale. In S. Salek (Ed.), Compendium of quality of life instruments (Vol. 6, Section 2A:1) [CD-ROM]. Cardiff, Wales: Centre for Socioeconomic Research, Cardiff University. Haslemere, England: Euromed Communications [CD-ROM publication, without page numbers].

[27] Shearer D., Thomson W., Broadbent J. and Poulton R(2011). Maternal Oral Health Predicts Their Children‟s Caries Experience in Adulthood. J Dent Res.; 90(5):672-7.

[28] Shenoy R. and Sequeira P. (2013). Effectiveness of a school dental education program In improving oral health knowledge and oral hygiene practices and status of 12- to 13- year-old school children. Indian J Dent Res [cited 2013 Oct 25]; 21:253-9.

[29] Son M. (2003). Effects of oral health education program on the oral health knowledge, oral health behavior and oral hygiene status of elementary school students. Journal of Korean Academy of Community Health Nursing, 14(1), 2 4- 35.

[30] Sudha B. and Anegundi R. (2005). Prevalence of dental caries among 5-13 year-old children of Mangalore city. J Indian Soc Pedo Prev Dent - June.

[31] Vann W., Lee J., Baker D. and Divaris K. (2010). Oral Health Literacy among Female Caregivers: Impact on Oral Health Outcomes in Early Childhood. J Dent Res; 89(12):1395-1400.

[32] Vinay k., Kabil R., Rajeshwar P., Pravesh J., Deepak S. and Ashish J. (2013). Impact of school based oral health education program on oral health of 12 and 15 years old school children J, Educ health promot . , 2, 33.

[33] Weintraub J., Prakash P., Shain S., Laccabue M. and Gansky S. (2010). Mothers' Caries Increases Odds of Children's Caries. J Dent Res; 89(9):954-958.

[34] Yi G. and Hyun H. (2009). A study on knowledge of oral health, behavior, self - efficacy, belief, and the number of dental caries of elementary school students. Journal of Korean Academy of Community Health Nursing, 20(4), 531 - 539.

[35] Zahra S. (2010). Oral health among Iranian preadolescents: A school -based health education intervention. Helsinki, Finland: University of Helsinki, Faculty of Medicine.