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School-Age Learners Views on the Oral Health Status of the Division of Northern Samar towards Developing Dental Health Education Program

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ABSTRACT
This study described the views of the school-age learners on the oral health which is significant in the design a dental health education program for the Division of Northern Samar. With the use of descriptive research design that employed both quantitative and qualitative methodologies, the profile of the school-age learners and the status, and practices of their oral hygiene were also described.

Three hundred seventy-seven Grade one to six pupils of the four districts Catarman served as respondents. It was significantly found that the common foods offered to the pupil-respondents were rich and fish, rich and chicken and rice and vegetable. Mostly of the pupil-respondents' parents have low income, college graduates optimistic towards the significance of cleaning children's teeth after every meal. A majority of the respondents were having tooth decay, having many tooth decay, identified that the main cause of tooth decay is not brushing teeth, having tooth loss, do not have filled tooth, had plaque disposition believing that the best way to remove plaque disposition.

Furthermore, mostly of the respondents were flossing always as they are capable of buying dental floss and aware of the dental significance of dental floss to oral health, were using toothpaste commercial in rinsing: toothpick, using used mouthwash toothbrush every and after breakfast. The school-age learners had average knowledge and practice towards brushing. Moreover, the health education program is essential for the Division of Northern Samar as no program has been previously designed.

Keywords: *Oral hygiene, nutrition, knowledge, oral health, school-age learners*

1. INTRODUCTION

Undeniably, oral health as it affects other parts of the human system be it among school-age learners and old alike become a growing concern and interest of dental health practitioners in which the author is greatly a part of.

According to the joint report of the Department of Health and Department of Education the main oral health problems are dental caries (tooth decay) and peridontal disease (gum disease). These two oral diseases are so widespread that 87% of our people are suffering from tooth decay and 48% have gum disease (2011 NMEDS Survey). The combined ill effects of these two major diseases (except oral cancer) weaken bodily defense and serve as portal of entry to other more serious, potentially dangerous and opportunistic infections overlapping other diseases present. Such will incapacitate a young victim as in crippling heart conditions arising from oral infection that may end in death. It is a known fact that the individual so affected with such handicap has disturbed speech and becomes withdrawn and avoids socializing with people and so lessens his opportunities for advancement. More critical however is the effect of poor or defective teeth to overall nutrition to maintain good general health that begins with the first bite and chewing the food efficiently.

In the desire of the researcher to come up with data in oral health in the Northern Samar context, no available data from both the Department of Education and the Department of Health. However, in the TV news broadcasted last February 18, 20015, Philippines ranked second in terms of the incidence of oral health problem all throughout the world, India being the first. Among those who are greatly/mostly affected are the school-age learners. Preliminary talk with some teachers and observations with oral health of the pupils a reality prevail that such problem prevails and

exists. This agrees with the response of a class adviser in an interview that one of the factors that results to the absenteeism of pupils is toothache which undeniably results to affected academic performance.

With this, oral health is indeed an integral element of general health and well-being because it enables individuals to eat, communicate and socialize with others. Moreover, oral health is considered a mirror of general health and the mouth is a portal for infectious organisms to enter the whole organism. Therefore, according to Sheiham the compartmentalization involved in viewing the mouth separately from the rest of the body must cease because oral health affects general health."

This is because the prevalence of oral disease in children and adolescents may lead to pain, poor nutrition and time out of school, affecting academic performance of the learners and interfering in their quality of life.

Furthermore, adolescents spend a large proportion of their day in school or pursuing school-related activities. While the primary purpose of school is the academic development of students, its effects on adolescents are far broader, also encompassing their physical and mental health, safety, civic engagement, and social development. Further, its effects on all these outcomes are produced through a variety of activities including formal pedagogy, after-school programs, caretaking activities (e.g.. feeding, providing a safe environment) as well as the informal social environment created by students and staff on a daily basis, and considering an oral health education program as an integral part of the educational system is essential.

While most reports focus on a particular aspect of the school environment (e.g., academics, safety, health promotion), this paper looks at school-age learners and the schools more comprehensively as an environment affecting multiple aspects of adolescent development. Research has repeatedly demonstrated the interconnectedness of the pieces, with safety and health affecting the academic environment, academics affecting health and social development, and so on. For that reason, any particular aspect of school policy and activities will be better understood through the lens of that larger context. This is particularly important as school systems have become even more pressured to focus on their main goal of academic development of the learners.

In some studies it was observed that there were significant associations between school performance or lost school days and the oral health conditions of schoolchildren. Gift, et al. (1992) showed that in 1989,over 51 million school hours were missed annually by North American school-aged children as result of visits to dentists or oral problems. Moreover, according to the US General Accounting Offices, children with poor oral health are 12 times more likely to have restricted-activity days than those children without oral disease. Blumenshine, et al. are stated that children with poor oral and general health are more likely to have poor school performance. Thus, general health could function as a confounding variable for the relationship between oral health and school performance. Other confounding variables were related to socio-environmental conditions of the children, such as low socioeconomic status and low education level of the family, which exert great influence on disturbed schooling, together with the burden of disease. This represents a challenge to public health interventions, especially in some populations, such as immigrants and low income individuals in whom oral problems are more frequent and who cannot afford private treatment. "

Oral health system is in a transitional developmental stage, and systemic data collection is needed to plan oral health care for the public. Comprehensive preventive programs for oral health care are still lacking in the Division of Northern Samar, so more dental health education is needed to improve oral health standards among the learners. Little is known about the oral health attitudes and behavior of children although such knowledge is an indication of the efficacy of applied dental health education programs if there are. This study therefore provides data for future research and allows comparisons with children's oral health attitudes.

Developing teacher training programs that include oral health knowledge and an evidence-based approach to dental health education within a school setting could enable primary school teachers to play a significant part in oral health promotion for young children, thus this study.

2. OBJECTIVES OF THE STUDY

The study aimed to document the school-age learners' views about the oral health status of the Division of Northern Samar. The same would be essential in designing or developing dental health education programs.

Specifically, this study aimed to:

1. Document profile of school-age learners in terms of:
   1.1. nutrition in terms of the type of food usually eaten
   1.2. socio-psychological condition
      1.2.1. Parents' income
      1.2.2. Parents' occupation
      1.2.3. Parents' educational attainment
      1.2.4. Parents' perspective to oral health
2. Determine the status of oral hygiene of school-age learners in terms of the presence of the following:
   2.1. tooth decay
   2.2. tooth loss
   2.3. filled tooth
   2.4. plaque deposition
3. Determine the level of knowledge of the respondents on oral hygiene in terms of:
   3.1. Brushing
   3.2. Rinsing
   3.3. use of dental floss
   3.4. use of toothpick
4. Determine of practice of the school-age learners on oral hygiene in terms of the level
   4.1. Brushing
   4.2. use of dental floss
   4.3. use of toothpick
   4.4. rinsing
5. Design oral health education program for the Division of Northern Samar.

3. METHODOLOGY

Locale of the Study

In the year 2002, through Resolution No. 2001-35-1871, authored by the Sanguniang Bayan of Catarman, the Municipality of Catarman was divided into four districts namely: Catarman I, Catarman II, Catarman III, and Catarman IV.

This study was conducted in the Department of Education, Division of Northern particularly in the four districts of Catarman.

Specifically, this study focused on the following schools: Catarman I Central Schools, Catarman II Central School, G. R. Frigillana Memorial School, and Cawayan Integrated School.

Research Design

The major concern of this study was to describe the oral health status of school-age learners of the Division of Northern Samar. Along the description of such status was the description of the knowledge and practices of the learners on oral hygiene, thus, this study made use of the descriptive research design employing both qualitative and quantitative following the IPO framework.

The Variables

Considering the descriptive type of research design, the input, process, and output model was manifested in which the school-age learners' profile, status of oral hygiene, knowledge on oral hygiene, and practices on oral hygiene were the input.

The profile of the respondents was considered to include nutrition, and socio-economic conditions, as sub variables. Nutrition included the type of usually eaten during breakfast, lunch, dinner, and in between meals. On the other hand, socio-economic conditions included parents' income, parents' attainment. Occupation and parents' education.

Documenting the school-age learners' profile and the determination of the status, knowledge and practices on oral hygiene belonged to the process. Documenting oral health status was based on the sub-variables which were the presence of tooth decay, tooth loss, filled tooth and plaque deposition. At a more specific point, knowledge on oral hygiene includes sub-variables brushing which included frequency of tooth brushing, occasion of tooth brushing, time spent in brushing teeth, use of toothpaste, method of brushing, preference of type of toothbrush, intervals for exchange of tooth brush, reasons for brushing/not brushing; use of dental floss; use of toothpick; and rinsing which specifically included rinsing of mouth with water, rinsing of mouth with tea, rinsing of mouth with salt water, rinsing of mouth with salt water. Oral Health Education Program for the Division of northern Samar was the expected output.

Respondents of the Study

The respondents under study were the 6416 pupils from grades one to six in the four central schools comprising the four districts of Catarman.

In grade one, there were 1032 pupils, 378 from Catarman I Central School, 180 pupils from Catarman II Central School, 223 pupils from G. R. Frigillana Memorial School and 251 pupils from Cawayan Integrated School.

In grade two, there were 1057 pupils, 360 from Catarman I Central School, 203 pupils from Catarman II Central School, 279 pupils from G. R. Frigillana

Memorial School and 215 pupils from Cawayan Integrated School.

In grade three, there were 1159 pupils, 446 from Catarman I Central School, 230 pupils from Catarman II Central School, 277 pupils from G. R. Frigillana Memorial School and 206 pupils from Cawayan Integrated School.

In grade four, there were 1090 pupils, 455 from Catarman I Central School, 193 pupils from Catarman II Central School, 256 pupils from G. R. Frigillana Memorial School and 186 pupils from Cawayan Integrated School.

In grade five, there were 1021 pupils, 421 from Catarman I Central School, 182 pupils from Catarman II Central School, 220 pupils from G. R. Frigillana Memorial School and 198 pupils from Cawayan Integrated School.

In grade six, there were 1057 pupils, 412 from Catarman I Central School, 180 pupils from Catarman II Central School, 257 pupils from G. R. Frigillana Memorial School and 208 pupils from Cawayan Integrated School.

Population and Sampling

The total population of school-age learners under study in four districts of Catarman, Divsion of Northern Samar was 6, 416. This total population of pupils included: 2, 472 pupil-population from Catarman I Central School, 1, 168 pupil-population from Catarman II Central School, 1, 512 pupils from G. R. Frigillana Memorial School and 1, 264 pupil-population from Cawayan Integrated School.

However, because of the large number of population a statistically accepted sample was drawn using the Sloven's formula to ensure higher reliability of results.

This was done on the basis of stratification. The stratification was based on the subdivision of Catarman districts: Catarman I Central School, Catarman II Central School, G. R. Frigiliana Memorial School, and Cawayan Integrated School and by grade level of school-age learners: grades one to six. This strategy determined as to what extent each stratum in the population was represented in the sample.

In this type of probability sampling or technique of sampling, the samples from the different strata of the population under study were selected randomly.

The sampling procedures used in this study were as follows:

First, the sample size was determined through the use of Sloven's formula. The sample size was 376.5.

Second, the sample proportion () was computed using the formula where n was the sample size as computed using Sloven's formula which is 377 and N as the size of the population which was 6416. The sample proportion was 0.06.

Third, after computing the sample proportion which was 6%, the sample proportion was multiplied to the different substratum in every stratum to which all the pupil population was determined as shown in the table below. The different districts were the substrata while the grade levels such as Catarman I Central School, Catarman II Central School, G. R. Frigillana Memorial School, and Cawayan Integrated School (Appendix 2 Samples). were the different strata

Research Instrument

A survey questionnaire was used in this study. No study reviewed fitted the present study in terms of instrument used. With this, the researcher made use of many reviewed studies and accumulated the instruments, restructured them to fit to the objectives of the study. Part 1 of the questionnaire dealt on the profile of the school-age learners. It provided information about nutrition, and socio-economic condition. Nutrition included the type of food usually eaten during, breakfast, lunch, dinner, and in between meals. On the other hand, socio psychological condition includes parents' income, parents' occupation, and parents' educational attainment.

Part 2 delivered on the oral health status based on the presence of tooth decay, tooth loss, filled tooth and plaque deposition.

Part 3 measured the school-age learners' knowledge on hygiene specifically on brushing which included oral frequency of tooth brushing, occasion of tooth brushing, time spent in brushing teeth, use of toothpaste, method of brushing, preference of type of tooth brush, intervals for exchange of tooth brush, reasons for brushing/not brushing; use of dental floss; use of toothpick; and rinsing which specifically includes rinsing of mouth with water, rinsing of mouth with tea, rinsing of mouth rinsing of mouth with salt water. with salt water,

The same variables comprised the measurement of the level of practice of oral hygiene which was the substance of Part 4. These were all essential for the completion of the proposed Oral Health Education Program for the DepEd, Division of Northern Samar.

4. DISCUSSION

This study found out that the common food usually taken by the pupil-respondents were rice and fish, rice and chicken and rice and vegetable. Most of the pupil respondents' parents had low income, government employees and housekeepers, were college graduates, and parents were optimistic towards the significance of cleaning children's teeth after every meal. In general perspectives, parents recognized the essentiality of healthy milk children in chewing food properly.

In terms of the status of oral hygiene of school-age learners were: A majority of the respondents were having tooth decay. Most of the pupil-respondents were having many tooth decay, most had tooth decay at the age of 6-7 years old. A majority of pupils recognized that the reasons for the tooth decay were not brushing teeth, eating chocolates and candies. Most of the respondents had no tooth loss. However, considering the number presented in the table below regarding tooth loss, this is a significant number in studying tooth loss knowing that almost a complete half of the population under study were having tooth loss. A majority of those with tooth loss were having many tooth loss that could be attributed to their perceptions towards brushing, food usually eaten and causing tooth decay. A majority of the respondents had no filled tooth. This means that the pupils with tooth decay were having filled teeth considering the difference between those who have tooth decay and those with filled teeth. A majority of the pupil respondents were having many filled teeth. A majority of the respondents had plaque disposition. A majority of the pupil-respondents recognized that they have plaque deposited on their teeth because of not brushing teeth. A majority of pupils believed that brushing teeth is the best way to remove plaque deposition.

Respondents had an average knowledge towards brushing. Regarding the level of knowledge of the pupil-respondents on oral hygiene in terms of using dental floss, the respondents had moderately high knowledge. In terms of the level of knowledge on the use of toothpicks, the respondents. had moderately high knowledge on the use of toothpicks. The level of knowledge of the respondents on oral hygiene in terms of rinsing is moderate. The overall level of practice on oral hygiene in terms of brushing, use of dental floss, use of toothpick and rinsing was "moderately high."

5. CONCLUSION

In the light of the findings of the study, the following conclusions were drawn:

The school-age learners were offered and given by the parents the right food. This implies that pupils are getting the right nutrition needed for good oral health. It implies further that pupils are getting proper nutrition as fish being the top most food being served by parents to the pupil-respondents is rich with calcium.

In terms of the nutrition and socio-psychological condition, the following were the findings and implications:

The parents of the school-age learners had low income and college graduates. This implies that the parents of the pupils have limited resources in providing good oral health. Most of the parents are government employees and housekeepers. This implies that parents have not enough or permanent occupation. This also implies that parents would have the vast knowledge about taking good care of oral health. Parents were optimistic towards the significance of cleaning children's teeth after every meal. This implies that parents recognize the essentiality of healthy milk teeth for children in chewing food properly.

In terms of the status of oral hygiene of school-age learners are:

The school-age learners had tooth decay. This implies that the school-age learners have poor oral health. The school-age learners had many tooth decay at an early age. This implies tooth decay started during the time that pupils are already in preschool education where they have easy access to various food considering their exposure to vast choices of food usually eaten by children.

The school-age learners know that the main cause of tooth decay was not brushing teeth. This implies that the school-age learners are aware what causes tooth decay.

The school-age learners had no tooth loss. Considering the number regarding tooth loss, presented in the Table below is a significant number in studying tooth loss knowing that almost a complete half of the population under study were having tooth loss. This also implies that they have poor oral health and could also be attributed to their perceptions

towards brushing, food usually eaten and causing tooth decay.

The school-age learners had no filled teeth. This implies that the school-age learners have not filled their teeth yet considering the school-age learners with tooth decay which could lead to poor oral health.

The school-age learners had plaque disposition. This implies that the oral health of the school-age learners is at risk.

The school-age learners recognized that plaque deposited on their teeth because of not brushing their teeth regularly might be attributed to the belief that milk teeth could be taken care of properly because they would anyway fall or be removed naturally. This implies that school age learners are not brushing their teeth properly.

The school-age learners believed that brushing teeth is the best way to remove plaque disposition. This implies that the school-age learners are aware of the significance of brushing teeth in their oral health.

The school-age learners had no idea whether flossing had a positive or negative effect and most of the respondents were always flossing. The school-age learners are capable of buying dental floss and are aware of the dental significance of dental floss to oral health and they are using toothpicks. They were using commercial toothpicks. This implies that they are not aware that using a toothpick is not advisable. The school-age learners believed that they were using toothpicks as need arises. They also believed that using toothbrush and toothpaste in rinsing: using mouthwash every after breakfast and that the best way of rinsing/mouth washing was using mouth with water.

The school-age learners had an average knowledge towards brushing. This implies that school-age learners are not totally knowledgeable about the significance of brushing. The school-age learners had an average level of practice towards brushing. This implies that they are not totally practicing good habits for oral hygiene.

6. RECOMMENDATIONS

After the analysis of the findings, the following recommendations are proposed:

1. Parents should provide varied food options rich in omega 3 fatty acids or fatty fish rich in vitamin D good for the absorption of calcium, orange rich in vitamin c that is good for the gums, eat apples and carrots can scrub away plaque and freshen breath, and limit acidic food such as citrus fruits.
2. The school together with the parents should collaboratively strengthen monitoring and supervision of the oral hygiene of school-age children specifically on brushing, using of dental floss, using toothpick and rinsing to stop the building up of tooth decay.
3. The school health section together with the division health section should adhere to the health program designed by the researcher to address problems on the causes and building up of tooth decay and plaque deposition.
4. The Department of Education should strengthen its information drive or campaign on oral health that will lessen tooth loss.
5. The Department of Education should have a functional monitoring and recording of the oral health status of children giving significance to the role of oral health to pupils' academic success.
6. The school should strengthen the tooth brushing activity of the Department to make school-age learners knowledgeable of the proper way of brushing teeth.
7. Since school-age learners are totally dependent on their parent's choice of the toothpaste, dental floss, using toothpick, rinsing and its practices, the parents should be part of the campaign drive on oral health so that they will be knowledgeable or aware of what to provide.
8. In the conduct of information drive or campaign, it should also emphasize how long the toothbrush will be used and when it will be replaced and proper brushing and rinsing should be well explained and demonstrated as part of the oral health program to increase level of knowledge and practices in achieving good oral health.
9. Another study should be conducted similar present study along the following dimensions: to the
   a) A correlational study between the food usually taken and the building up of tooth decay, tooth loss, and plaque deposition.
   b) The effect of socio-psychological profile of the parents and the food usually taken to the oral health status of school-age children.
   c) A qualitative study on the food usually taken from elementary to high school and its effect

on the oral health along the assumptions of maturational theory.

7. REFERENCES

[1] Abrahamsson, K. L., Berggren, U., Hakeberg, M., & Carlsson, s. G. (2001). Phobic avoidance and regular dental care in fearful dental patients: A comparative study. Acta Odontologica Scandinavica, 59, 273-279.

[2] Ajzen, I. (2006). TPB diagram. Retrieved from http://people.umass.edu/aizen/tpb.diag.html.

[3] American Dental Association. (2008). Key dental facts. Chicago, IL: American Dental Association.

[4] American Dental Association Council on Access, Prevention and Inter-professional Relations. (2010). Health literacy in dentistry action plan 2010-2015. Chicago, IL: American Dental Association.

[5] Bartholomew, L. K., & Mullen, P. D. (2011). Five roles for using theory and evidence in the design and testing of behavior change interventions. Journal of Public HealthDentistry, 70(S), 20-33.

[6] Becker, M. (1974). The health belief model and personal health behavior. Health Education Monographs, 2, 324 473.

[7] Beegle, D. (2003). Overcoming the silence of generational poverty: Invisible literacies. Retrieved from Communication Across Barriers website:http://www.combarriers.com/TP01510ve rcoming.pd f

[8] Berry, J. (2005, November 7). New ADA president outlines priorities. American Dental Association News, p. 29.

[9] Bertness, J., & Holt, K. (2004). Oral health and health in women: A two-way relationship. Retrieved from

[10] http://www.ask.hrsa.gov/detail.cfm?id=MCH001 23

[11] Blumenshine SL, Vann WF Jr, Gizlice Z, Lee JY. Children's school performance: impact of general and oral health. Journal on Public Health Dent. 2008; 68: 82-7.

[12] Bolton, J., Cox, B., Clara, I., & Sareen. (2006). Use of alcohol and drugs to self-medicate anxiety disorders in a nationally representative sample. Journal of Nervous andMental Disease, 194(11), 818-825

[13] Brookfield, S. (1995). Becoming a critically reflective teacher. San Francisco, CA: Jossey-Bass.

[14] Bullock, K. (1999). Dental care of patients with substance abuse. Dental Clinics of North America, 43(3), 513-526.

[15] Creedon, P. (1993). Acknowledging the infrasystem: A critical feminist analysis of systems theory. Public Relations Review, 19(2), 157-166.

[16] Crossley, H. (1996). Management of the active or recovering chemically dependent dental patient. Maryland State Dental Association, 39(2), 85-86.

[17] Curtis, E. (2003). Heavy drinking, drug abuse present health complications for dental treatment. Retrieved from http://www.agd.org/media/2003/dec/abuse.html

[18] DePaola, D. (1998, October). Beyond the university: Leadership for the common good. Paper presented at American Association of Dental Schools 75th SummitConference, Washington, D.C. (pp. 1-9).

[19] Dube, S., Felitti, V. J., Dong, M., Chapman, D. P., Giles, W. H., & Anda, R. F. (2003). Childhood abuse, neglect, and household dysfunction and the risk of illicit drug use: The Adverse Childhood Experiences (ACE) study. Pediatrics, 111, 564-572.

[20] Duin, S. (2004, January 11). College education for a captive audience. The Oregonian. Retrieved from http://www.oregonian.com

[21] Empay, G., & Bradley, K. J. (2007). Oregon smile survey. Retrieved from http://www.oregon.gov/DHS/ph/oralhealth/docs/s mile 2007.pdf

[22] Engstrom, C. M., & Tinto, V. (2008). Learning better together: The impact of learning communities on persistence of low-income students. Retrieved from the http://www.adbor.edu/services/studentaffairs/doc uments /LearningBetterTogether Engstrom-Tinto-2008.pdf

[23] Freudenberg, N. (2002). Adverse effects of US jail and prison policies on the health and well-being of women of color. American Journal of Public Health, 92, 1895 - 1899.

[24] Friedlander, A. H., Marder, S. R., Pisegna, J. R., & Yagiela, J. A. (2003). Alcohol abuse and dependence: Psychopathology, medical management and dental implications. Journal of the American Dental Association, 134, 731-740.

[25] Filewich, R. J., Jackson, E., & Shore, H. (1981). Effects of dental fear on efficiency of routine dental procedures. Journal of Dental Research, 60(A), Abstract #895.

[26] Gift HC, Reisine ST, Larach DC. The Social Impact of Dental Problems and Visits. American Journal on Public Health. 1992; 82: 1663-8.

[27] Glick, M. (2009). Utilization and access: Different concepts for different interests? Journal of the American Dental Association, 140(4), 396-98.

[28] Jones, Colwyn M., McCann, Mary, & Nugent, Zoann. (2002). Scottish prisons' dental health survey. Retrieved from www.scotland.gov.uk/library5/health/spdhm-04.asp

[29] Jones, E. M., Knutson, D., & Haines, D. (2003). Common problems in patients recovering from chemical dependency. American Family Physician, 68, 1971-1978.

[30] Harris, N., & Garcia-Godoy, F. (2004). Primary Preventive Dentistry (6th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

[31] Horowitz, A., & Kleinman, D. V. (2008). Oral Health Literacy: The New Impreative to Better Oral Health. Dental Clinics of North America, 52(2), 333-344.

[32] Institute of Medicine. (2000). Healthy people 2010. Retrieved http://www.cdc.gov/nchs/healthy_people/hp2000.htm