

Oral Health Promotion in Rural Pediatric Primary Care

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Abstract

Background

Pediatric oral health disparities are one of the leading global chronic problems that affect children of all socioeconomic backgrounds. Poor oral health leads to the development of dental caries, which can cascade into an innumerable number of comorbidities, including pain, infection, malnutrition, and decreased self-esteem. Oral health education from the medical and dental home in conjunction with regular cleanings and biannual fluoride varnish has been shown to decrease the risk of caries by at least one third.

Implications for Health Care Providers

Oral health, dental caries, and the resulting comorbid conditions affect the overall health of the child who follows up with their primary care provider. Pediatric health care providers can play a major role in the prevention of these dental caries through the promotion of oral health education and fluoride varnish application during well-child visits

Results

In comparison to pre-data, providers felt more confident and comfortable discussing oral health hygiene and offering fluoride varnish after the educational intervention. There was no significant change in the fluoride varnish applications pre and post in the chart audit; however, there was inconsistent data between the chart audit and the fluoride varnish questionnaire data filled out by providers during the well visit. Lastly, a significant number of parents declined the application of fluoride varnish implying that further intervention should be focused on parent education.

Keywords: early childhood caries, fluoride varnish, pediatric primary care providers, oral health, health promotion

Oral Health in Pediatric Primary Care

Oral health is one component of multitudes that primary care health providers are faced with their patients. Poor oral hygiene can lead to dental caries, which can cascade into a multitude of ailments affecting the child's wellbeing and quality of life throughout their lifespan. There are multiple factors that affect a child's oral health, including preventative measures, genetics, socioeconomic status, nutrition, and oral health knowledge. Dental caries are a chronic gradual ailment that is preventable and treatable but left untreated, they can lead to pain, infection, and risk for further decay.

Pediatric Oral Health

Nutritional status, self-confidence, chronic disease, communication, and development are all aspects of a child's health that is affected by their oral health status. Poor oral health can lead to painful eating, which in turn can lead to decreased intake or less healthy foods that are difficult to chew without discomfort. Children's first tooth erupts around six months of age when food is introduced. Then they lose these primary teeth around six years of age in favor of their permanent teeth (American Academy of Pediatrics [AAP], 2010). If the primary teeth are affected by poor oral health, oral hygiene, and dental caries, they are at an increased risk of developing these issues with their permanent dentition, which they will keep for the rest of their life. Parents or guardians of children with poor oral health are affected by medical and dental bills and needing to take time off from work to take children to additional dental appointments for restorative dental work.

Children age six months to five years old are at high-risk for poor oral health because many children do not begin to see the dentist until Kindergarten, well past when they have developed dental caries. Children who are of low socioeconomic status, certain ethnic

backgrounds, and without access to local fluoridated water are at a high risk for the development of dental caries. Many children do not have access to a dentist or pediatric dentist that is local, especially if they live in a rural environment. Additionally, the cost for the prevention of caries is significantly less than the cost of caries management for the family and the healthcare (Sibley, 2018).

Presentation

The state of oral health starts before the first tooth eruption until after permanent dentition is set in with good oral hygiene habits. Healthy primary and permanent teeth are white-colored, smooth, and shiny; however, they can develop a dull film of dental plaque, which is caused by bacteria that can be mechanically removed by brushing and flossing. The initial signs of poor oral health include white spots on dentition that cannot be mechanically removed, malodorous breath, and poor gum condition (Nicolae et al., 2017). These symptoms can continue to manifest in dental caries, oral lesions, and oral infection. Healthy hygiene habits, while they cannot reverse decay such as white spots, they can prevent erosion of enamel, and arrest the development of dental caries with therapeutic interventions such as fluoride sealants (Nicolae et al., 2017).

Prevalence

Every single child experiences oral health during their life; the good the bad and the ugly. According to a health examination survey from 1999-2004, by 2-5 years of age, 28% and by 6-11 years of age, 51% of children have at least one incidence of dental decay (National Institute of Dental and Craniofacial Research [NIDCR], 2018). In the children ages 2-5 years old, 20% of those with oral caries are untreated (NIDCR, 2018). Untreated dental decay can lead to further

decay of other and permanent teeth, in addition to serious comorbidities such as pain, infection, nutritional deficits, and developmental issues in children.

The American Academy of Pediatrics and American Academy of Pediatric Dentists recommends biannual visits to the dentist by one year of age for cleaning, fluoride varnish application, and inspection for early signs of caries (The American Academy of Pediatric Dentistry [AAPD], 2014) (AAP, 2010). Healthy People 2020 focuses on the oral health of children and adolescents with goals aimed at reducing the occurrence of dental caries experienced, diminishing the proportion of children with untreated decay, increasing the availability of preventative services, and improving the number of dental sealants on molar teeth (Office of Disease Prevention and Health Promotion [ODPHP], 2019). The United States Preventative Services Task Force put out a statement that children whose water supply is deficient in fluoride, below the recommended levels to prevent caries, have fluoride varnish applied to the primary teeth of all children from the first tooth eruption to age five years by the primary care health provider during well visits (Moyer, 2014).

Literature Review

The key to all of the problems in oral health is prevention. Our society has changed through the years, both benefitting and hindering oral health. Progress has been made in the past two hundred years on the cause and prevention of poor oral hygiene and restoration of caries, but changes in diet and habits have put our youngest members at society for new risks to dental caries (Appendix A).

Current Trends Affecting Oral Health

As processed food has become more readily available over the past 70 years, there has been an increased consumption in sugar-sweetened food and beverages. Consumption of these

sugar-sweetened goods, including non-water containing bottles, within an hour of bedtime, has been shown to increase the risk for caries development (Levine, 2019). Educating parents and children on avoiding consuming these sugar-sweetened goods before bed in combination with twice-daily brushing with fluoridated toothpaste could reduce the risk of caries development and prevent further complications of poor oral health (Levine, 2019).

While many children do not see a dentist until around age five years, many non-pediatric dentists have stated they are uncomfortable seeing patients under two years of age (Douglass & Clark, 2015). In many states, there is a shortage of dentist to patient ratio, and the pediatric dentist ratio even lower. This leaves a gap in care if there is not an available pediatric dentist, even if the family is trying to make a dental home at the recommended age of one year (Douglass & Clark, 2015) (Okah, Williams, Talib, & Mann, 2018). Primary care providers can establish relationships with local dental homes to make referrals to dentists comfortable taking younger patients (Sengupta, Nanavati, Cericola, & Simon, 2017).

Fluoride Varnish in Pediatric Primary Care

Until recently, fluoride varnish was applied and reimbursed to dentists in the dental home. Under the Affordable Care Act, The US Preventative Services Task Force mandates that insurers are required to reimburse for fluoride varnish applied by medical professionals (Sibley, 2018). In many states, including Arizona, the application of fluoride is within the scope of a primary care provider and reimbursable by most insurances (Arizona Health Care Cost Containment System [AHCCCS], 2018). Fluoride varnish has been found to prevent up to one-third of oral caries when applied biannual on primary and permanent dentition (Moyer, 2014). The application process of fluoride varnish is not time-consuming and can be easily integrated into the regular well-visit routine, even in a busy primary care practice (Sudhanthar et al., 2019).

Current evidence suggests that combination of education to parents and children on oral hygiene practices, fluoride varnish application in the primary care office oral health screening and referral during well-child exams to a dental home in children 1-5 years of age is beneficial in the prevention of poor oral health and dental caries formation (Dooley et al., 2016) (Okah et al., 2018).

Water Guidelines

The AAPD (American Academy of Pediatric Dentistry) guidelines on fluoride state that fluoridated water, fluoridated nutritional supplements, fluoridated toothpaste, and the biannual application fluoride varnish has been shown in randomized controlled trials to decrease the incidence of dental caries (The American Academy of Pediatric Dentistry [AAPD], 2014). The U.S. Public Health Service recommends water fluoride levels of 0.7 mg/L ppm to maintain dental caries prevention (U.S. Department of Health and Human Services [HHS], 2015). Show Low, and the surrounding town's main water source is from drilled wells. According to the 2017 environmental quality consumer confidence report, the annual running average for fluoride content in Show Low's water was <0.10 ppm (Arizona Department of Environmental Quality [ADEQ], 2017). It is unknown if parents are aware of the inadequate amount of fluoride in their tap and bottled water.

Updated Literature Review

A more recent review has supported previous literature that fluoride varnish is a procedure that can be easily incorporated into primary care visits, promotion of fluoride varnish application reduces the risk of early childhood caries, and oral health education to primary care providers improves clinical competency in oral health assessment and management. A study focused on implementing fluoride varnish in a rural primary site showed that primary health care

providers who receive education and training in fluoride varnish application were able to successfully provide the application to children five years of age and younger during primary care visits (Dahlberg, Hiott, & Wilson, 2019). Barriers found during this were lack of proper supplies, lack of adequate support staff, and financial compensation for providers where benefits were support from practice management (Dahlberg et al., 2019). The European Archives of Paediatric Dentistry (EAPD) reviewed the highest risks for pediatric dental erosion. They found that overconsumption of soft drinks and other acid foods led to erosive demineralization of the teeth, however, increased frequency of fluoride varnish application helped prevent erosions by making the tooth surface more resistant to acid demineralization (Lussi et al., 2019). The EAPD updated its guidelines on the use of fluoride varnish for caries prevention to strongly advise fluoridated toothpaste in the conduction to application of fluoride varnish based on the patient's needs and risks (Toumba et al., 2019).

A study conducted observing health care providers receiving oral health academic knowledge and hands-on assessment from multiple interprofessional backgrounds found that there was an increase in knowledge and clinical skills regarding fluoride varnish application and providing anticipatory guidance (Niranjan et al., 2019). This finding indicates more formal education and interprofessional collaboration may be needed to provide better patient care.

Current Organizational Efforts

The Healthy People 2020 goals on the oral health of children and adolescents aim at reducing the proportion who have dental caries experience, reduce the proportion with untreated dental decay, increase preventative services, and increase the number of dental sealants on molar teeth. Medicaid and many other insurances will cover fluoride varnish as billable preventative care. The Centers for Disease and Control has a cooperative agreement program under the State

Oral Disease Prevention Program where they fund 21 state health departments to build or maintain community and clinical interventions targeting the underserved to improve and prevent chronic oral health issues (Centers for Disease Control and Prevention [CDC], 2017). The State Oral Disease Prevention program does not currently fund Arizona.

Internal Evidence/ Setting Generated Data

According to the providers at the pediatric clinic in Show Low, the majority of dentists in the surrounding area will not accept children under five years of age and do not take state insurance. In a search for dentists through the American Dental Association, there are eight general practice dentists within Show Low, Arizona, and no pediatric specialty dentists (The American Dental Association Find-a-Dentist, 2018). The nearest town Lakeside, which is 10 miles from Show Low, has one pediatric dental office with three pediatric specialty dentists who take Medicaid (The American Dental Association Find-a-Dentist, 2018). In addition to Lakeside and Show Low, they also service the towns of Winslow and Holbrook, which increases their patient load and schedule (The American Dental Association Find-a-Dentist, 2018). The majority of the patients and residents of Show Low are Native American, lower economic status, do not have reliable methods of transportation and/or are on state insurance.

Current Practice at Show Low's Pediatric Primary Care

Before this intervention, during the primary care visit an inquiry was made regarding if the child had a dental home. While fluoride varnish was available for application, it was not mandatorily offered at each primary care visit. The pediatric office worked with a program called Healthy Steps that educates parents briefly about dental hygiene practices around their first birthday and gifts the child a toothbrush and toothpaste kit. The pediatric office did not have a policy to offer fluoride sealant every six months at office visits mandatorily. They also did not

use a screening tool for pediatric oral health. Summit Healthcare keeps track of how many fluoride applications are charged through coding but did not have hard data on dental caries unless the healthcare provider specifically coded that the child has caries. This inquiry led to the PICOT question: for healthcare providers of young children in rural towns, does education in the primary care office about fluoride sealant, incidence and impact of dental caries increase the application of fluoride sealant in the primary care setting compared to no additional education?

Theoretical Framework

Philip B. Crosby developed the theory Crosby's Four Absolutes of Quality Management based on quality improvement, which proposed the importance of systems knowledge, improvement, and need for quality control for quality improvement (Crosby, 1984). His theory to increase quality improvement was based on four basic concepts; conformance to requirements, quality is prevention, the performance standard is zero defects, and the measurement of quality is the price of nonconformance (Crosby, 1984) (Appendix B). He emphasized that everyone should do it right the first time (DIRFT) and that if management supported DIRFT, then everyone would follow suit and uphold the change in practice (Crosby, 1984). This theory suggests that to attain the goal of quality improvement, management must be fully supportive of the change, variables should be identified and consistently measured and evaluated, deviations should be addressed else risking deviations to become acceptable practices, and cost of the quality (preventative measures and quality education) should be reviewed and tracked regularly. Crosby proposed using his model to develop a quality improvement “vaccine” ideology to fulfill a long-term process of implementing quality improvement instead of a quick and easy fix (Crosby, 1984). The quality vaccine is a metaphor to explain that leadership must educate all employees in

quality improvement and must be dedicated to a long-term process of implementing a quality improvement (Crosby, 1984).

Quality Improvement Model

The Rosswurm and Larrabee's Model is an evidence-based practice model to help healthcare professionals through a systematic process for change. Practitioners can use this model to develop and integrate change using evidence-based quantitative studies, qualitative studies, clinical expertise, and contextual evidence (Rosswurm & Larrabee, 1999). The model outlines the six steps to guide the evidence-based project implementation process: determine the need to change practice, approximate the problem with outcome indicators, synthesize the best scientific evidence, design proposed change and plan for implementation with defined outcomes and necessary resources, conduct a pilot study and evaluate change outcome, integrate change into practice by communicating results to stakeholders, and continue to evaluate the process and results (Rosswurm & Larrabee, 1999) (Appendix C).

This model applied to this project because it emphasizes synthesizing empirical and contextual evidence to guide the development of an evidence-based project to address a problem or gap in practice and continue to evaluate the process after the initial outcome (Rosswurm & Larrabee, 1999). In the Summit Healthcare pediatric primary office, there was a gap in care for oral health education and routine fluoride varnish application. By using this model, a literature review was conducted to evaluate the best practice in implementing oral health and fluoride varnish applications aimed at providers change to apply the evidence into a pilot project in practice.

Evaluation Questions

Evaluation questions help clearly define the purpose and priority of the project that is consistent with the goals of the project site. The evaluation questions should correlate with the outcomes being measured. With this project two evaluation questions were developed; does provider education on oral health education and benefit of fluoride varnish increase fluoride varnish rates and what is the reasoning for or against fluoride varnish application? The first question was consistent with this project because it focused on the steps of the theoretical framework used for this project, the Plan-Do-Study-Act (PDSA) cycle. This framework supported this question by allowing the project to be created, implemented, studied, and then reassessed and changed as needed to repeat the study for a better outcome (Institute for Healthcare Improvement [IHI], 2019).

The second question focused on the who of question one's outcome to give more meaning to the project. The PDSA framework study and act steps was used to assess the reasoning why or why not there was fluoride application during the well visit and turn this information into the next step to improving rates.

Measurement Outcomes

To successfully measure data for this project, two outcomes needed to be measured: fluoride varnish acceptance/rejection rationale and the number of fluoride varnish applications pre and post educational intervention. Two measurement tools were selected to collect data for this project; a self-report questionnaire and chart audit. Using these tools allowed the collection of the outcomes to be measured to answer the evaluation questions of this project.

Fluoride Varnish Acceptance/Rejection Rationale

A self-report questionnaire was used to gather data on fluoride varnish acceptance or rejection rationale. Providers filled out a form during well visits with one question asking if

fluoride varnish was offered with four answers; Yes, applied, no, parent refusal, no, received fluoride varnish from dentistry within last six months, and no, not offered) There is no data on the reliability and validity of this instrument because it is an untested questionnaire. There is a chance of variability due to the probability of providers filling out the question with every visit, and the honor system of them filling it out.

Fluoride Varnish Applications

The measurement of the number of fluoride varnish applications coded for pre- and post-educational intervention were measured by a chart audit targeting the following information; fluoride varnish application, age, gender, and insurance type. The outcome was measured using a chart audit to gather the data and then assess the outcome differences between pre and post-education. This data was presented to the office and organization. Chart audits offered concrete evidence regarding rates of documentation that helped reflect adherence to practice guidelines (Greene et al., 2014; Ivers et al., 2012). The information gathered has been shown in private feedback to physicians to improve the quality of their care, and increase healthcare outcomes (Greene et al., 2014; Ivers et al., 2012).

Results

A quality improvement project was conducted at the site to collect three methods of data one month prior and post an educational intervention aimed at pediatric providers: a chart audit, a fluoride varnish application questionnaire, and an educational questionnaire. The provider questionnaire assessed oral health knowledge, early signs of dental decay, and confidence of speaking to patients and parents about oral health and fluoride varnish by one year of age. On the provider educational questionnaire, in comparison to pre data, providers felt more confidence and comfortable discussing oral healthy hygiene and offering fluoride varnish after

educational intervention on a Likert scale of 0-10 and were able to identify early signs of dental decay. For the chart audit, 616 cases of children ages six months to five years were compared to 517 visits in the month post the educational intervention comparing age, gender, insurance type to fluoride varnish application. There was no significant change in the fluoride varnish applications pre and post in the chart audit when compared on a Two-Tailed Mann-Whitney U test based on an alpha value of 0.05, $U = 160182$, $z = -0.78$, $p = .438$ (Appendix D). However, there was inconsistent data between the chart audit and the fluoride varnish questionnaire data filled out by providers during the well visit where more fluoride varnishes were noted on the questionnaire compared to the chart audit, however, fewer questionnaires were filled out compared to the number of visits in the same time frame. The fluoride varnish questionnaire assessed if fluoride varnish was offered, applied, or if parents declined. There was a significant amount of fluoride varnish declination of application by the parents leading an implication that further intervention may be needed focused on parent education. In the collection of the data, the providers noted that having the questionnaire sticky note in each exam served as a reminder to discuss oral health and offer fluoride varnish. But if the sticky note was not in the rooms or on the patients' papers when they went to do the exam it was not filled out.

Implications for Pediatric Primary Healthcare Providers

Pediatric primary healthcare providers see pediatric patients at least twelve times for primary care checkups before the average child sees the dentist for the first time. The initial dental visit, while recommended by the first birthday, is often conducted around the fifth birthday, or kindergarten far after preventative dental assessment should be conducted and often find multiple dental caries (Clark & Slayton, 2014). One of the primary objectives of the pediatric well visit is to educate families on healthy habits and preventative care. Secondary

objectives are to help patients with ailments and comorbidities. Oral caries are more than just a dentition complication. Untreated caries can lead to dental pain, increased risk for oral infections, increased risk for nutritional deficits from painful mastication, which can impact development, and decreased self-esteem. These comorbid conditions can increase the number of sick visits to the healthcare provider and continue to cascade until the underlying issue is addressed, arrested in progress, and prevented.

A survey conducted in 2017 found that 24% of its respondents did not know that white spots were the first sign of dental caries (Hadjipanayis et al., 2017). Primary care health providers must be knowledgeable in the signs of early dental decay in addition to healthy oral hygiene habits that can be taught to families from the first visit. Education including how and when to clean gums, when to visit the dentist, how much toothpaste to use, if their child is at high risk for caries and would benefit from fluoride varnish, and healthy nutrition habits to build strong teeth and reduce contribution to cavities (Silk, Sachs Leicher, Alvarado, Cote, & Cote, 2018). Lastly, pediatric primary healthcare providers can be the liaison to establishing their patients with a dental home and ensuring regular preventative visits (Sengupta et al., 2017).

Recommendations

Poor oral health and the associated comorbidities associated is a preventable problem. The recommendation is to see a dentist beginning with the first tooth eruption or by the first year. This is followed by biannual visits for regular oral health maintenance, in conjunction with oral health hygiene, and application of fluoride varnish during primary care visits for children who are at high risk for developing dental caries. Fluoride varnish can prevent around one-third of oral caries in primary teeth (Centers for Disease Control and Prevention [CDC], 2014). Pediatric primary care health providers can be the liaison between the medical and dental home to

encourage and educate patients and families on the importance of oral health hygiene habits and preventative care maintenance.

Conclusion

Oral health is a huge component of pediatric healthcare and continues to be a chronic condition that affects children of all ages and socioeconomic backgrounds despite advances in technology. The multiple factors that can affect a child's oral health are addressed during pediatric well visits. Education of current oral health assessment and recommendations to pediatric primary health care providers can assist in the assessment and education of patients and families. Pediatric primary health care providers can use this opportunity to pave the distance between the medical and dental home, ensuring their patients have the education and resources at the level of their needs to prevent dental caries and promote strong oral health to prevent future comorbidities. Primary care providers can ensure high-risk patients are receiving fluoride varnish biannually during primary care visits and connected with a dental home by one year of age as recommended. Fluoride varnish application biannually in conjunction with oral health education, has been shown to decrease the risk of early childhood caries formation. By decreasing the risk of caries, primary care providers are fostering a better quality of life for the pediatric population and their families.

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Appendix A

Table 2
Synthesis table

| Author | Chessnutt | Dooley | Fontana | Garcia | Jackson | Marinho | Memarpour | O'Neill | Rolnick | Weintraub |
|-----------------------------------|-----------|----------|------------|-------------------------|----------|---------------------|-----------|----------|----------|-----------|
| Year | 2017 | 2016 | 2018 | 2017 | 2011 | 2013 | 2016 | 2017 | 2015 | 2006 |
| Country | UK | USA | USA | USA | USA | UK | Iran | NI | USA | USA |
| Design/LOE | RCT/II | CCS/IV | CS/IV | MA/I | CSR/IV | SR/I | RCT/II | RCT/II | CS/IV | RCT/II |
| Age | 6-7 y.o. | 1-5 y.o. | 12 +/- 3 m | 0-5 y.o. | <18 y.o. | <18 y.o., 22 trials | < 3 y.o. | 2-3 y.o. | 1-5 y.o. | 6-36 m |
| Setting: PC office/ Dental office | X | X | X | X | | X | X | X | X | X |
| Setting: School | | | | | X | | | | | |
| Sample Size | 1,016 C | 198 C | 1325 C | 2,424 C | 2,183 C | 12,455 C | 260 C | 1,248 C | 12,067 C | 376 C |
| Duration of Study | 36 months | 4 years | 3 years | 3 years | 1 year | 1-5 years | 1 year | 3 years | 2 years | 2 years |
| Variables | | | | | | | | | | |
| FV Intervention | X | X | X | X | | X | X | X | X | X |
| Education Intervention | X | X | | | | | X | | | X |
| Outcomes | | | | | | | | | | |
| Risk for Caries with FV Ind V | ↓ | ↓ | ↓ | ↓ | | ↓ | ↓ | ↓ | ↓ | ↓ |
| Cost Analysis of FV | ↓ | | | | | | | ↓ | | |
| Impact on QOL | | | | FV no AE= no QOL impact | ↓ | Caries ↓ QOL | | | | |

Appendix B

Crosby's Four Absolutes of Quality Management

Crosby: Four Absolutes of Quality Management

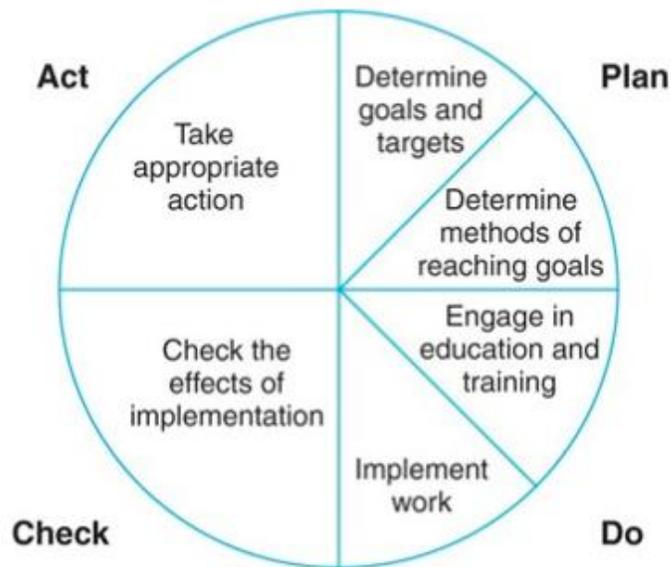
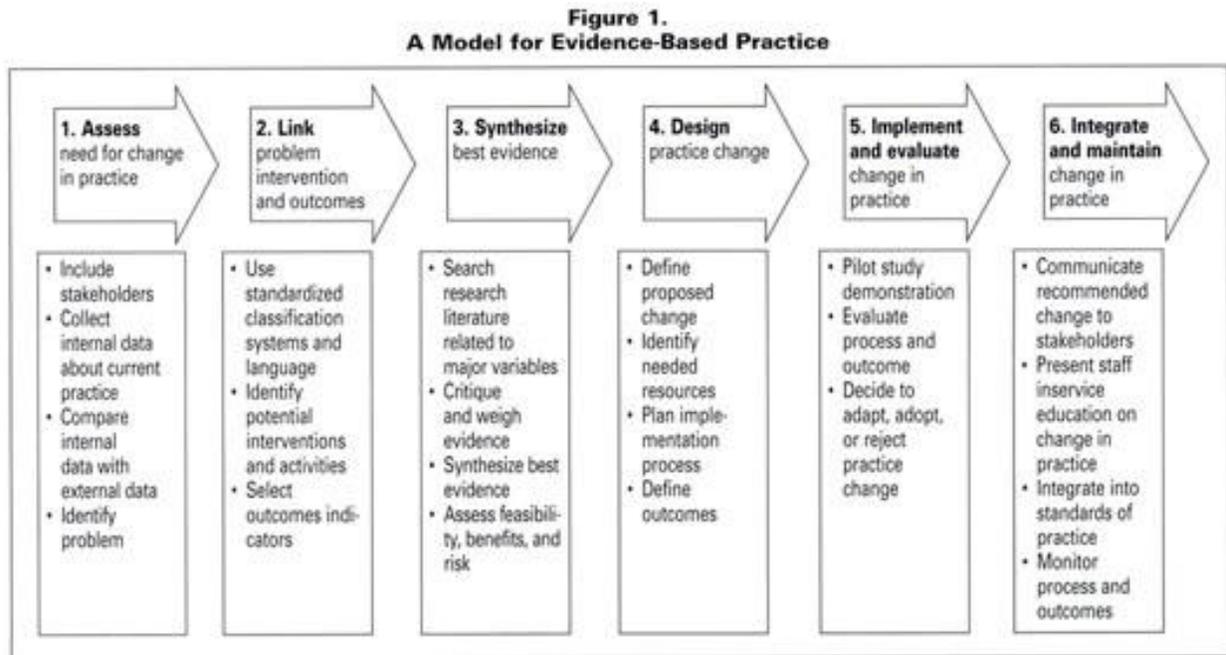


Figure 1. Pictograph of Crosby's Four Absolutes of Quality Management (Crosby, 1984)

Appendix C

Model for Evidence-Based Practice: Rosswurm & Larrabee



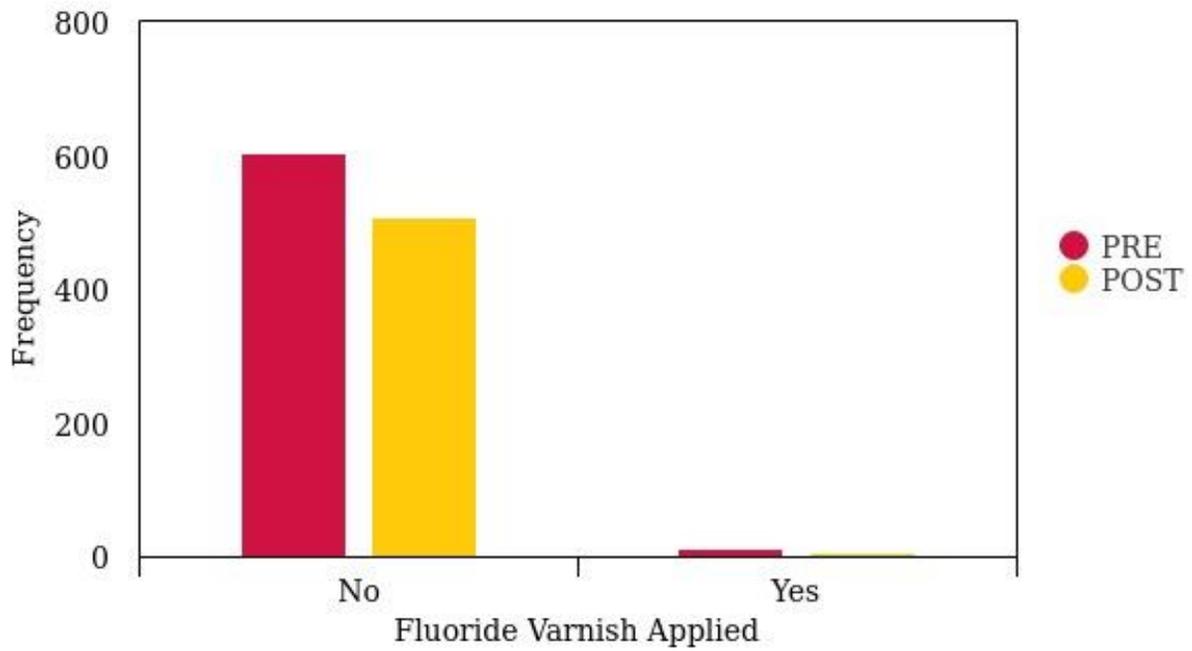
From Rosswurm & Larrabee (1999). By permission of Sigma Theta Tau International Honor Society of Nursing.

Figure 2. Pictograph of Rosswurm and Larrabee’s evidence-based practice model (Rosswurm & Larrabee, 1999).

Appendix D

Chart Audit Comparison Pre-/Post-

Barplot of Fluoride Application PRE and POST



Appendix E
Fluoride Varnish Questionnaire

Fluoride Varnish?



Yes, Applied



**No, parent
declined**



No, not offered

Appendix F

Budget for DNP Oral Health Project
 Krysta Crawford
 Costs for provider educational presentation

| OPERATIONS EXPENSE ITEMS | | REQUESTED AMOUNT |
|--------------------------------|-------------------------------------|-------------------|
| ROOM RENTAL | 1x conference room for presentation | \$500 |
| PROJECTOR RENTAL | | \$150 |
| PRESENTATION CLICKER | | \$25 |
| COFFEE/FOOD | Approx. \$10/person x 10 people | \$100 |
| PRINTING- HANDOUTS/EDUCATIONAL | 1x for presentation | \$75 |
| PRESENTER TRAVEL/LODGING | 1x | \$400 |
| WIFI HOT SPOT | Zoom | \$40 |
| OTHER | Writing utensils | \$40 |
| SOFTWARE | SPSS for data analysis | \$100 |
| EXTERNAL HARDDRIVE | PIN protected | \$55 |
| PRESENTER | Cost in time for presenter | \$500 |
| TOTAL | USD | \$1,985.00 |

Budget Justification

The following is justification for the items budgeted for this DNP project.

1. Operations:
 - a. Equipment
 - i. Room rental: to provide a space for educational presentation to providers.
 - ii. Projector rental: to provide digital presentation and visual photos during presentation.
 - iii. Presentation clicker: for changing through slides when presenting.
 - iv. Wi-Fi hotspot/Zoom: to open presentation to zoom to increase access to presentation from other providers unable to attend in person.
 - b. Materials and Supplies
 - i. SPSS software is necessary to run the data analysis.
 - ii. PIN protected external hard drive: to provide security for data and documents
 - iii. Writing utensils for providers attending the educational meeting to write notes and provide questions and feedback at the end of the presentation.
 - iv. File folders to organize feedback from providers
 - v. Coffee/food for providers attending the presentation.
 - c. Printing
 - i. Provider educational handouts for providers attending and extra to take back to colleagues.
2. Travel/Lodging
 - a. Hotel room rental
 - b. Gas

Grant funding will provide a large portion of the operating cost of this project. All other costs not covered by the grant will be incurred by the student including travel and lodging as the project site is over 200 miles from the student's residence.

Potential grant funding available through:

1. Community Response Fund
2. DentaQuest Executive Director's Fund
3. HRSA Oral Health Workforce Activities
4. American Association of Public Health Dentistry (AAPHD)- small grants program

Revenue/Savings

Primary care providers who have completed the AHCCCS required online fluoride varnish training, may be reimbursed for fluoride varnish applications completed at the EPSDT visits for members who are at least six months of age, with at least one tooth eruption and then every 6 months until the patients second birthday.

Fluoride varnish application increases savings to the patient and their family by preventing dental caries which in turn prevents dental work to manage caries such as fillings, silver diamine fluoride, and silver caps.