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ABSTRACT:

Title of Thesis: The Impact of Mandatory Continuing Education on Maryland Dental Hygienists' Reporting Behaviors Regarding Child Abuse and Neglect

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Purpose: The purpose of this research study was to describe the knowledge level and reporting practices of Maryland dental hygienists who take a mandated continuing education (CE) course on abuse and neglect.

Methods: This research study was approved by the Institutional Review Board for the Health Sciences of the University of Maryland, Baltimore. A pilot survey conducted with a convenience sample of dental hygiene faculty members was administered prior to dissemination of the member survey to assess question clarity and ease of survey completion. The data collection process for this research included an online survey administered to 1,641 Maryland licensed dental hygiene members of the Maryland Dental Hygienists' Association, and a follow-up survey two weeks later to capture additional respondents. Data analysis included qualitative statistics and cross-tabbed reports.

Results: Maryland dental hygienists who had taken the Mid-Atlantic P.A.N.D.A. CE course were more likely to accurately describe the signs and symptoms of child abuse and/or neglect, but were still unsure if the signs they were witnessing in a child were truly child abuse and/or neglect. The results were similar regardless of whether the course was taken online or in a face-to-face setting.

Conclusion: Taking a mandated CE course concerning child abuse and/or neglect does make a difference in the reporting of suspected cases of child abuse and/or neglect. Maryland dental hygienists who took a mandated CE course were more able to describe the signs of child abuse and were more likely to report a suspected case of child abuse.

The Impact of Mandatory Continuing Education on Maryland Dental Hygienists' Reporting Behaviors Regarding Child Abuse and Neglect

By
Susan Seibel, RDH BS

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CHAPTER I
INTRODUCTION

Children are uniquely vulnerable to abuse and neglect. Inability to defend one's self and dependency on family members and other caregivers for physical, psychological, and social well-being renders children at high risk for maltreatment when those childhood relationships fail. According to the United States Department of Health & Human Services (2011), an estimated 3.3 million referrals, involving the alleged maltreatment of approximately 5.9 million children, were received by Child Protective Services (CPS) agencies during fiscal year 2010. Of those referrals, nearly 2 million reports were screened and received a CPS response. Of the 1,793 724 reports receiving an investigation, 436,321 were substantiated, 24, 976 were found to be indicated; and 1,262,118 were found to be unsubstantiated (U.S Department of HHS, 2011).

Children in the age group of birth to 1 year suffer the highest rate of child abuse and neglect, at a rate of 20.6 per 1,000 children, and victimization is nearly equal among boys and girls. Boys comprised 48.5 percent and girls accounted for 51.2 percent of victims (U.S. Department of HHS, 2011). Three ethnic groups accounted for 88 percent of child abuse and neglect victims: 21.9 percent African-American, 21.4 percent Hispanic and 44.8 percent Caucasian victims (U.S Department of HHS, 2011). Each year children die at the hands of their caretakers from child abuse and neglect.

Nationally, 1,537 children died in 2010 from abuse and neglect (U.S. Department of HHS, 2011). Of the fatalities, 80 percent occurred in children younger than 4 years of age and boys had a higher fatality rate than girls at 2.51 per 100,000 compared to 1.73 per 100,000 girls in the general population (U.S Department of HHS, 2011).

Each state in the United States has developed its own definition of child abuse and neglect based on standards determined by Federal law. Each state's definitions are based on acts or behaviors that define child abuse and neglect as identified and provided in federal legislation. The Child Abuse Prevention and Treatment Act (CAPTA) (42 U.C.A. 5106), as amended in 2003, defines child abuse and neglect as; "Any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation; or an act or failure to act which presents an imminent risk of serious harm" (CAPTA, 2003).

Maryland Statistics:

In 2010, 45,129 total referrals for child abuse and neglect were made in Maryland and of those referrals, 26,294 were screened-in referrals,(reports and investigations made by CPS) and 7,211 children were indicated as having been abused or neglected (U.S.D.H.H.S., 2011). These children experience varied and sometimes multiple forms of maltreatment: 71.6% were neglected, 25.3% were physically abused, 13.2% were sexually abused, and 0.2% was psychologically maltreated. There were 24 child fatalities attributed to abuse and neglect in Maryland in 2010.

Signs of Physical and Oral Abuse:

Retinal hemorrhages, hand-print bruises, human bite marks, broken bones, genital injuries, intramural hematomas and lacerations of the mouth have been identified in the past as potential signs of child abuse (Mouden & Bross, 1995). A high percentage of physical injuries occur to the head and neck of children because they are unable to shield their head when attacked, nor defend themselves against perpetrators of abuse. Sixty-

five percent of the physical signs of child abuse and neglect are visible in the head and neck region (Mouden & Bross, 1995). These signs may include: broken teeth, broken facial bones, bruises to the face, neglected oral hygiene, and contusions to the head and neck region, including the ears (Little, 2004). Additional signs of physical abuse to the head and neck may include contusions, burns, or lacerations of the tongue, lips, buccal mucosa, palate tissues, gingiva, alveolar mucosa, or frenum; fractured, displaced or avulsed teeth and/ or fractures of the facial bones and jaw.

General and Dental Neglect:

According to the Department of Health and Human Services, neglect is the failure of a parent, guardian or other caregiver to provide for a child's needs. This may include not providing proper nutrition, education, physical, mental or emotional needs. In order for a child to thrive there are basic elements such as food, shelter, proper supervision and emotional needs. Neglect would also include allowing a child to take part in the use of drugs or alcohol.

The American Academy of Pediatric Dentistry defines dental neglect as "the willful failure of a parent or guardian to seek and follow through with treatment necessary to ensure a level of oral health essential for adequate function and freedom from pain and infection." As much as 50% of injuries to the head and neck are a result of abuse or neglect (Little, 2004). Rampant dental caries, untreated gingivitis, periodontal disease, dental abscesses and poor nutrition are some conditions that may be classified as dental neglect (Kellogg, 2005).

Dental professionals have an advantage over most health care professionals in recognizing and reporting suspected cases of child abuse and neglect. Physicians do not receive as much education in oral health as do dental professionals; therefore, it is important for dental professionals to be aware of the physical signs of child abuse and neglect (Kellogg, 2005). Most dental professionals provide regular routine care of children and the dental office may be the initial place an abused child presents for treatment of a facial injury (Tsang & Sweet, 1999). Dental professionals should be knowledgeable about the behavioral indicators of child abuse and neglect (Katner & Brown, 2012). They should be cognizant of linking physical and non- physical signs to child maltreatment for earlier intervention is the best interest of the child. Each dental visit should consist of an extra-oral as well as an intraoral examination and noting any signs of child abuse or neglect in the patient's record. Similarly, untreated dental disease should be noted as it may also be an indicator of child neglect.

Professional Reporting:

Professional report sources are persons who encounter the maltreated child as part of their occupation. Health care professionals do not consistently report suspected cases of child abuse to proper authorities (Kempe, 1962). There is little research describing the reasons why oral health care professionals do not report suspected cases of child abuse and/or neglect. According to (Kempe, Silverman, Steele, Droegemueller, & Silver, 1962), lack of education concerning the signs of abuse, lack of awareness, and the failure of knowing where to report were indicated as some of the reasons for non-reporting among health care professionals. Kempe et al. (1962) noted that one of the main reasons that physicians failed to report suspected abuse was linked to personal feelings of

discomfort at the thought that he/she would potentially be accusing a parent of abuse and/or neglect. Many health care professionals denied that such a problem existed in families and found it difficult to believe that a parent would actually inflict harm on a child (Kempe & et al., 1962). Given the continued low number of reports made by health professionals, findings from Kempe's et al.'s (1962) landmark report likely persist today.

Reporting by Dental Professionals

In all 50 states, dentists and dental hygienists are mandated reporters of child abuse and neglect (Katner & Brown, 2012). Dental professionals, because of the high incidence of craniofacial injuries occurring among child victims of abuse and neglect, are frequently the first health care professionals to render treatment to a maltreated child. Additionally, dental hygienists usually treat children and their families at regular routine preventive recall appointments. Despite the high frequency of contact with children, dental professionals may be missing opportunities to report victims of abuse and neglect. Dentist has self-reported low occurrences of referrals to CPS agencies. Few studies have assessed what the self-reported practices of dentists and dental hygienists have been. To date there is no current data available that isolates state and national reporting practices of dental hygiene professionals.

Furthermore, previous research shows that less than 1 percent of child abuse and neglect reports are made by dentists (Mouden & Boss, 1996). The way in which reporters to CPS agencies are classified compounds the low reporting rate by dental professionals. Dental professionals are not consistently categorized separately from physician reports.

Demographics of Child Abuse and Neglect:

In the past, child abuse and neglect was thought to be a problem that existed mostly in families of low socioeconomic status and among minority groups (Mouden & Bross, 1995); however, U.S statistics indicate that victims of child abuse and neglect exist in all demographic, socioeconomic and minority groups. Mouden and Bross (1995) suggested that cases of child abuse and neglect in families of higher socioeconomic status are often not reported and even denied by health care professionals. Nearly 50 years later, data from *Child Maltreatment 2010* concur with Kempe et al's conclusions from 1962 regarding perpetrator characteristics. Child abuse and neglect can occur in families of all backgrounds. Although studies show that most offenders are under the age of 25, there is no stereotypical child abuser (Tsang & Sweet, 1999). Offenders come from every walk of life, and their abusiveness can be sparked by a variety of factors, such as: financial stress, divorce, drug and alcohol abuse, unemployment, illness, or even close living quarters (Tsang & Sweet, 1999). Many perpetrators of abuse and neglect have a history of maltreatment in their own childhood and may come from families where patterns of abuse and neglect are similar.

Consequences of Child Abuse and Neglect:

Child abuse continues to be a major concern in the United States. Some studies indicate that approximately 3 children die each day in the United States as a result of child abuse and neglect. According to research conducted by Tsang and Sweet, statistics on child abuse are often difficult to gather because of the secretive nature of abusers and the variability of every state legislature in regard to its definition of child

abuse and neglect (Tsang & Sweet, 1999). Statistics do show, however, that 40 percent of deaths from abuse and/ or neglect involve cases that have been reported to child protection services at least once and children who suffer from child abuse and neglect are more violent as adults and often develop emotional and social problems (Tsang & Sweet, 1999).

In a retrospective cohort study measuring the adverse childhood experiences (ACEs) there was a "2-to 4-fold increase in the likelihood of illicit drug use of children by the age of 14" in those children who suffered some type of abuse or neglect in childhood (Dube, Felitti, Dong, Chapman, Giles & Anda, 2011). The study also noted that there is a strong relationship between the breadth of exposure to abuse or household dysfunction during childhood and multiple risk factors for several of the leading causes of death in adults.

Another report indicates that disease conditions including ischemic heart disease, cancer, chronic lung disease, skeletal fractures, and liver disease, as well as poor self-rated health also showed a graded relationship to the breadth of adverse childhood exposures (Fellitti et al., 2003). According to Corso, Edwards, Fang & Mercy (2008), there is increasing evidence that exposure to childhood maltreatment can lead to greater susceptibility to lifelong physical and mental health problems, including cardiovascular disease, hypertension, diabetes, anxiety disorders, depression, substance abuse, and perpetration of future violence. Childhood maltreatment has long- term implications for children as they enter into adulthood and can in turn affect their own future families and children.

Child Abuse and Neglect Education:

Thomas, Straffon, Inglehart, & Habil (2006) concluded that although child abuse/neglect is included in dental and dental hygiene curricula, testing students to clinical competency is less consistently integrated into professional dental education programs. Health care professionals are required by law in all 50 states to report suspected child abuse to CPS for further investigation (Sfikas, 1999; Katner & Brown, 2012). While health care providers may treat patients with signs and symptoms of child abuse and neglect, most cases are not recognized and therefore are not reported (Tilden, Schmidt, Limandri, Chiodo, Garland & Loveless, 1994). In a study conducted by Tilden et al., (1994), it was concluded that most health care professionals did not believe that child abuse and neglect was prevalent among their patients. This study also suggested that dentists and dental hygienists are not as educated about child abuse and neglect as other health care professionals. Often, they do not suspect child abuse and neglect, and do not see themselves as being responsible for reporting it (Tilden & et al., 1994). Most dentists and dental hygienists do not feel comfortable reporting child abuse or neglect and less than 1% of dentists report suspected child abuse to the authorities (Sfikas, 1996).

Dentists and dental hygienists may not report suspicious child abuse for many reasons including: lack of education, lack of awareness, fear of confrontation, fear of getting involved, and denial that there is a child abuse problem (Tsang & Sweet, 1999). While research conducted in 2002 found that 100% of dental schools in the United States and Canada included a child abuse class, many dental professionals admit they do not feel confident in their education, and therefore do not report suspected cases (Gutmann & Solomon, 2002). It is important to note that while it is a mandatory in all 50 states for

health care professionals to report any suspicion of child abuse and/or neglect, it is also an ethical and moral obligation to report (Von Burg, Hazelrig, Shoemaker & Hibbard, 1993). Health care professionals who neglected to report suspected cases of abuse or neglect have been held legally and criminally liable (Sfikas, 1999). In addition, the American Dental Association requires its members to report suspected cases of child abuse according to the ADA "Principles of Ethics and Code of Professional Conduct" (Sfikas, 1999). The Principles of Ethics also states that dental hygienists "serve as advocates for the welfare of clients". If a dental hygienist suspects that a child is being abused, ethically he/she is responsible to report the suspected abuse to the proper authorities.

There is a critical need for health care professionals, including dentists and dental hygienists, to become more aware of the signs of child abuse and/or neglect, and the proper protocols for reporting. While there is no specific accreditation requirement for child abuse and neglect to be incorporated into dental hygiene entry-level educational curriculum, there is a newly revised accreditation standard for dental hygiene education programs from the Commission on Dental Accreditation (CODA) stating that "graduates must be competent in the application of the principles of ethical reasoning, decision making and professional responsibility as they pertain to the academic environment, research, patient care and practice management" (CODA 2011). Many schools of dentistry and dental hygiene are now incorporating child abuse and neglect awareness education as well as offering CE classes for licensed professionals to encourage reporting child abuse and neglect.

Dr. Lynn Mouden, acting Chief of the Bureau of Dental health for the Missouri Department of Dental Health in Jefferson City, Missouri, formed the organization, Prevent Abuse and Neglect through Dental Awareness (P.A.N.D.A.), in 1992. The P.A.N.D.A. organization promotes abuse and neglect awareness programs for the health care community and others by providing low cost seminars, lectures, and training (P.A.N.D.A., Organization, 2001). From the year 2000 to 2006, P.A.N.D.A. has presented awareness training to over 6000 health care professionals and has expanded to over 44 additional states and 9 international countries (Mouden, 2006). Some states have since then created their own state-based P.A.N.D.A program based on Dr. Mouden's national P.A.N.D.A initiative. Maryland, Delaware, and the District of Columbia joined together in 2001 to form the first tri-regional organization, Mid-Atlantic P.A.N.D.A. Coalition.

Effective January 26, 2009, Maryland licensed dentists and dental hygienists must complete a Maryland State Board of Dental Examiners -approved 2 hour abuse and neglect CE course specific to Maryland law during every other license renewal cycle (COMAR *title 10, subtitle 44, chapter 22).* The Mid-Atlantic P.A.N.D.A course is one of two Maryland State Board of Dental Examiners approved CE course for abuse and neglect. The course helps educate licensees to recognize signs of abuse and neglect, and emphasize the importance of appropriate and timely reporting. Maryland is one of the few states to require perpetual CE on abuse and neglect for license renewal of dentists and dental hygienists. The state of Florida requires 2 hours of domestic violence continuing education every third license renewal cycle for dentists and dental hygienists. The state of New York has required documentation of coursework or training regarding

the identification and reporting of child maltreatment for initial licensure application among dentists and registered dental hygienists since 1989 (Www.op.nysed.gov/prof/dent/). According to the American Dental Association, Department of State Government Affairs, 2011, the state of Iowa requires child abuse and neglect CE for dentists only; Florida and Connecticut require education concerning domestic violence for both dentists and dental hygienists. The rest of the states in the U.S do not require any education about child abuse and neglect

Statement of the Problem:

While it is a moral as well as a legal obligation to report suspected cases of child abuse and neglect, few reports are made by dental professionals. There may be a variety of barriers impacting infrequent child abuse and neglect reports by dentists and dental hygienists. Inadequate educational preparation, lack of knowledge and inconsistent reinforcement of basic identification and reporting procedures may be reasons for low child maltreatment reporting practices among dentists and dental hygienists. Continuing education provides opportunities for licensed dental professionals to learn new practice related techniques and remain up to date with changes in their profession. Mandatory CE is required for all Maryland dentists and dental hygienists seeking licensure renewal.

Given the historically low reporting practices of dentists and dental hygienists, the Maryland State Board of Dental Examiners instituted a requirement for dentists and dental hygienists to complete an abuse and neglect CE course at every other renewal cycle beginning 2011. This new license renewal requirement arose from the belief that mandated updates and planned educational reinforcement will increase awareness and

reporting of child abuse and neglect. Increased awareness and knowledge of reporting practices may impact earlier intervention and prevent further child maltreatment. Many children experience years of abuse and neglect, some even experience death. It is important for dentists and dental hygienists to be informed of the signs and symptoms of child abuse and neglect, as well as the proper protocol in reporting suspected cases.

The impact of a mandatory abuse and neglect CE requirement for license renewal on Maryland Dental Hygienists' knowledge, attitudes, and reporting practices regarding child maltreatment CE is unknown. This study assessed the impact of taking a mandated abuse and neglect course for license renewal among Maryland dental hygienists and what differences exist between those who report suspected cases of child abuse/neglect and those who do not report.

Purpose of the Study:

The purpose of this study was to determine the impact of the Maryland State Board of Dental Examiners mandated CE requirement on Maryland dental hygienists' child abuse and neglect reporting practices. No research exists regarding Maryland dental hygienists' knowledge, practice behaviors, comfort level recognizing the signs and willingness to report suspected cases of child abuse and neglect. There is little research on how much, how frequently, and what format of education best improves the child maltreatment reporting practices of dentists and dental hygienists. Dental hygienists are prevention specialists, have keen assessment skills and spend greater lengths of time with patients on a regular basis than any other dental team member. Therefore, the role of the dental hygienists is an important one to assess concerning child abuse and neglect

prevention. Child abuse and neglect is prevalent in Maryland as well as throughout the United States. A dental hygienist possessing an increased awareness of abuse and neglect and knowledge of reporting mechanisms may save a child's life.

It is important for researchers to investigate the barriers that prevent dental hygienists from reporting suspected child abuse and neglect. This research study will be conducted to determine whether recentness and prior history of child maltreatment curricula in entry-level educational programs, recentness of and format for child abuse and neglect CE courses, and demographic variables impact Maryland dental hygienists knowledge, attitudes, and reporting practices regarding child abuse and neglect.

The following questions were addressed in this study:

- Is there an increased rate of reporting of suspected child abuse and/or neglect by participants who have taken the Mid-Atlantic P.A.N.D.A. course compared participants who have taken the course, The Dental Team: Advocates for Victims of Domestic Abuse course about child abuse and neglect?
- Is there an increased rate of reporting of suspected child abuse and neglect cases by participants who have taken the Mid-Atlantic (P.A.N.D.A) CE course 2 years ago as compared to participants who have taken the course within the past 3-6 months?
- Is there an increased rate in the reporting of suspected child abuse and neglect by participants employed in government supported clinics (FQHC, Health Department) as compared participants employed in private dental offices.

- Is there an increase in the reporting practices of suspected child abuse and neglect by participants with a minimum of 15 years of experience working as dental hygienists as compared to participants with less than 5 years' experience working as a dental hygienist?
- Is there a difference in the amount of reporting of suspected child abuse and neglect cases by participants that have taken the Mid-Atlantic P.A.N.D.A course online as compared to those that have taken the Mid-Atlantic P.A.N.D.A course face-to-face?
- Do participants who have fear of threat or retaliation from the suspected perpetrator as compared to participants who are not fearful of threat or retaliation from the suspected perpetrator suspect report a lower number of child abuse and neglect reports?
- Is there a difference in the reporting practices of suspected child abuse and neglect by participants who have personally experienced child abuse and neglect as compared to participants who have never personally experienced child abuse and neglect ?

Definitions of Terms:

Child Abuse: According to the Maryland Department of Human Resources (2009), child abuse is defined as a "physical injury, nor necessarily visible, of a child, under circumstances that indicates that the child's health or welfare is harmed or at a substantial risk of being harmed".

Child Neglect: According to the Maryland Department of Human Resources (2009), child neglect is the "failure to give proper care and attention to a child, including the living of a child unattended under circumstances that indicate that the child's health or welfare is harmed or placed at a substantial risk of harm".

Dental Neglect: According to the American Academy of Pediatric Dentistry (2009), dental neglect is defined as "the willful failure of parent or guardian to seek and follow through with treatment necessary to ensure a level of oral health essential for adequate function and freedom from pain and infection".

Child maltreatment: According to the Centers for Disease Control, (2011), child maltreatment is defined as "any act or series of acts of commission or omission by a parent or caregiver (e.g., clergy, coach, and teacher) that results in harm, or potential harm, or threat of harm to a child.

P.A.N.D.A: (Prevent Abuse and Neglect through Dental Awareness) According to the Office of Oral Health, Arkansas Department of Health and Human Services (2006), "Purpose is to educate dental professionals to recognize signs of child abuse and neglect through seminars and written materials". Promote awareness and procedures for reporting child abuse and neglect.

Registered Dental Hygienist: According to the American Dental Hygienist Association, (2009) a registered dental hygienist is a licensed oral health professional who focuses on preventing and treating oral diseases-both to protect teeth and gums, and also to protect patients' total health.

Health Care Professionals: Nurses, physicians, nurse practitioners, oral surgeons, dentist, dental hygienist, physician assistants, and pediatricians.

CHAPTER II
LITERATURE REVIEW

Child abuse and neglect is prevalent in the United States. Health care professionals can play an important role in recognizing and reporting suspected cases of child abuse and/ or neglect to CPS. Children who suffer from child abuse and neglect suffer long-term effects such as alcohol and drug abuse, emotional problems, learning disabilities, and are more prone to become abusers themselves (Tsang & Sweet, 1999). Child abuse and neglect have negative effects on the community as well. It is estimated that the cost to care for children who suffer from child abuse is $500 million dollars annually (Tsang & Sweet, 1999).

Following the development of the definition of the "Battered Child Syndrome", as defined by Kempe & et al., 1962 as a clinical condition in young children who have received serious physical abuse, all 50 states in the United States began developing laws regarding the reporting of child abuse, which assisted each state in obtaining funding for research and child abuse awareness programs (Mouden & Bross, 1995). Each state has since developed its own definition as to what they consider abuse and neglect. Most states define child abuse as an injury or trauma inflicted on a child that is non-accidental (Mouden & Bross, 1995). It is also important to note that reasonable corporal punishment is eliminated from the definition of child abuse (Mouden & Bross, 1995).

Corporal punishment is defined as a quick slap or spank of a child under the age of five (Gershoff, 2002). Corporal punishment is usually demonstrated immediately when a child is not behaving. When corporal punishment is administered, a physical injury to the child should not result. Children who are punched, kicked, burned, or

pushed have been abused and not punished according to some child advocates (Gershoff, 2002). Corporal punishment is a controversial subject that is researched extensively. Some child advocates claim that while the child may not suffer from immediate physical harm, psychological harm may still result (Gershoff, 2002).

In the United States it is mandatory that health care professionals report any suspected child abuse or neglect cases to CPS (Kellogg, 2005), however, there are many cases that go unreported each year. Reports indicate that while numerous suspected child abuse cases are reported each year, health care professionals are not doing their part in reporting other suspected child abuse cases. Wachtel (1989) found that only one in three cases of child abuse suspected by a health professional was actually reported. Educational preparation is one of many factors that influence a health care professional's willingness and likelihood of reporting suspected child abuse.

Health care professionals state many reasons for not reporting suspected cases of child abuse and/ or neglect, including: lack of education, low confidence, denial, and not knowing how to report such cases (Thomas et al., 1999). The low number of reports made by dental hygienists locally and nationwide likely occurs for reasons similar to other health care professionals. Cases of suspected child abuse and neglect that go unreported can result in additional abuse to a child or even death of the child. One study indicated that 40 percent of child abuse results in death of a child. This review will highlight the history of child abuse and neglect reporting in the United States; define signs and behavioral indicators of child abuse and neglect, the reporting practices of licensed Maryland dental hygienists, reasons for not reporting suspected cases and the public health impact of not reporting such cases.

Signs of Child Abuse:

Recent studies have documented that 65 percent of injuries to child abuse victims occur in the head and neck region (Thomas et al., 2002). Physical child abuse signs include bruises to the head and neck region, fractured teeth and or jaw, injuries to the corners of the mouth, burns, cuts to the tongue or lips, and avulsed teeth (Kellogg 2005).

Signs of Child Neglect:

Children, who present for a dental examination and show signs of rampant or untreated dental caries and/or trauma or injury to the head and neck region, may be suffering neglect (Tsang & Sweet, 1999). These findings should be documented in the child's dental records and treatment counseling should begin with the parent or caregiver. The American Academy of Pediatric Dentistry (A.A.P.D.), defines dental neglect as "the willful failure of a parent or guardian to seek and follow through with treatment necessary to ensure a level of oral health essential for adequate function and freedom from pain and infection."

Signs of dental neglect may include untreated dental caries, poor oral hygiene and poor nutritional habits (Tsang & Sweet 1999). Once the treatment is explained and the parent has knowledge of what treatment is needed, it is the duty of the parent to follow recommended guidelines to eliminate the possibility of future trauma or pain to the child.

The Role of the Dentist and Dental Hygienist:

Each state has developed and defined its own laws and definitions of child abuse and neglect. Health care professionals need to be familiar with the laws in their state and

report suspected cases not only because of the law, but also as an ethical and moral responsibility to the child patient (Sfikas, 1999; Katner and Brown, 2012).

Dentists and dental hygienists have an advantage over most health care professionals in that they are educated and familiar with the head and neck region, they may be the first of any health care professional to see an injured child for treatment (Sfikas, 1999). Parents often take an abused child to a dentist rather than a physician, fearing that the physician may suspect child abuse (Sfikas, 1999).

Reasons for the Lack of Reporting Child Abuse and Neglect:

While the literature provides many reasons as to why health care professionals do not report suspected child abuse and/or neglect, a study by Gutmann & Solomon, (2002), evaluated all 229 dental hygiene programs in the United States at that time to determine the amount of education on child abuse and child neglect in their curricula/programs. In addition to child abuse education, the study included spousal and elder abuse. The study methodology included a fifteen-item questionnaire mailed to 229 accredited dental hygiene program directors throughout the United States. The program director was instructed to have the faculty member who was responsible for teaching child abuse awareness to respond to the survey. A pilot test survey had been initially sent to eight dental hygiene programs in the United States to develop relevant survey questions. Following the pilot study, demographic questions as well as questions regarding past educational experiences of the dental hygiene students were included in the survey (Gutmann & Solomon, 2002).

Results of the returned surveys revealed, while most programs included education about child abuse education in their curricula, not all programs were consistent in educating their students on the same topics and most topics were too broad (Gutmann & Solomon, 2002). It was noted that each dental hygiene program faculty member may have his/her own definition. This study concluded that more research needs to be conducted on the most appropriate ways to educate dental hygiene students about child abuse and/or neglect. A determination of how many hours are needed as well as how to make all dental hygiene programs consistent with one another is another topic for research (Gutmann & Solomon 2002). Other studies need to include resource services available to dental hygienists as well as what content is needed in the program to make awareness of child abuse successful (Gutmann & Solomon, 2002).

Primary Care Physicians' Response to Domestic Violence:

The impact of family violence, including children, brings the problem into the medical setting. While there are not a lot of research studies to evaluate why dentists and dental hygienists do not report child abuse and/or neglect, research by Sugg and Inui (1992) supports the idea that most health care providers do not report domestic violence to proper authorities. The impact of family violence as well as child abuse and neglect eventually leads to the medical setting. Primary care physicians are important components in stopping family abuse from not being reported. This study conducted in 1990-1991 consisted of an open-ended interview with 38 primary care physicians working in clinics associated with an urban hospital. A total of 58 physicians, 37 percent women, and 63 percent men, were asked to participate in the interview. Forty-one took part in the interview, eight did agree to participate, and nine was not able to be reached.

The average graduate from medical school was 15 years. There were only two physicians who felt comfortable reporting domestic violence.

Eighteen percent of the participants stated that they did not report suspected cases of domestic violence due to fear of opening Pandora's Box (Sugg & Inui 1992). Most physicians felt that they were too close to the patients and did not want to cause problems (Sugg & Inui 1992). Physicians also stated that they had biased opinions concerning patients who presented from a lower socioeconomic status (Sugg & Inui 1992). Opening Pandora's box gives way to feelings of "too close for comfort", "fear of offending", "powerless", "loss of control", and "tyranny of the time" (Sugg & Inui 1992). Fifty five percent of physicians stated that they were afraid of offending their patient, while 50 percent claimed that they did not have knowledge as to where to report domestic violence (Sugg & Inui 1992). Forty two percent of the physicians felt as though the situation was out of their control, and that the ultimate choice to leave an abusive relationship was up to the patient (Sugg & Inui 1992). Finally, 71 percent of the physicians stated that to report domestic violence would be one more responsibility as well as time consuming (Sugg & Inui 1992).

While a variety of reasons for the lack of domestic violence reports made by physicians were described there were limitations to this study. The sample size was not large enough to convey the opinions of all physicians. This study was a quantitative study therefore; the reliability and validity could not be measured. The results are general and do not represent a large demographic area.

Educational Experiences of Dentists and Dental Hygienists:

A study conducted by Thomas et.al, (2002), evaluated the knowledge and educational experiences of dentists and dental hygienists regarding child abuse and child neglect. This study used a convenience sample of dental and dental hygiene students at the University of Michigan. The study consisted of a questionnaire answered anonymously by 233 dental students and 76 dental hygiene students. The results of this study determined that while dental students had received more child abuse and neglect education than dental hygiene students, 32% of the dental students and 13% of the dental hygiene students were not familiar with their legal responsibility of reporting suspected child abuse and neglect (Thomas et al., 2002). Study results revealed that 82% of the dental students and 79% of the dental hygiene students did not know where to report suspected child abuse and neglect (Thomas et al., 2002).This study's results demonstrated a relationship between the educational experiences of professional dental students and awareness of child abuse and neglect (Thomas et al., 2002). If students are made aware of the need to report child abuse and/or neglect, then they are more likely to report when working in a clinical setting. The study supports prior studies that more child abuse and neglect education is needed in dental schools. More studies are needed to evaluate what type of education is more beneficial to the students, clinical or lectures. The reporting of suspected child abuse and neglect is minimal among dentists and dental hygienists. Studies show that health care providers and physicians are also not reporting suspected cases of child abuse and neglect Flaherty et al., (2000). Many studies focus on individual states. There are few studies including the faculty or registered dental

hygienists in the state of Maryland. Most studies include convenience samples available to most researchers.

Reports of Suspected Abuse by Health Care Providers:

A study conducted by Flaherty et al., (2000), determined that health care providers such as nurse practitioners, physicians and physician assistants, reported 18% of suspected child abuse and/or neglect, but only 4% of the reports came from office-based physicians. This may be due to physicians not encountering any children who are suffering from child abuse, the physician not recognizing the physical signs of abuse, or physicians not taking the time to report the suspected child abuse (Flaherty et al., 2000). This study provided a questionnaire to 17 primary care physician type practices with a total of 89 providers, consisting of physicians, nurse practitioners, and physician assistants. The results showed that 56% of the respondents had reported treating a child suspected of suffering from child abuse in the past year. Eight percent of the respondents did not report suspected cases of child abuse/neglect (Flaherty et al., 2000). While the results of this study determined that physicians who had prior education were 10 times more likely to report suspected child abuse cases, this was a retrospective study and answers given may not have been reliable (Flaherty et al., 2000). Also, the physicians were advised that the survey answers were confidential, but some physicians may not have trusted that this was the case, resulting in giving biased answers. Another influencing factor while answering the survey questions was the educational experience of the physicians. Some physicians may have graduated from medical school more than 10 years, while others were new graduates (Flaherty et al., 2000). While the educational

experiences of the physicians varied, the study indicated that the results were not significantly different.

While this study does not focus on dentists and dental hygienists, the results of this study suggest that there is a need for more education and awareness of child abuse and neglect in health education curricula. Finally, this study does not show how each physician defines child abuse and neglect. Experience as well as educational background of health care professionals may influence responses.

Effectiveness of CE Training:

A recent study by Marji Harmer-Beem, in 2005, surveyed a convenience sample of dental hygienists who attended a CE training session about abuse recognition and reporting using a pre-test/post-test questionnaire. Before the CE training, 40% of the dental hygienists stated they would definitely report suspected child abuse, 40% stated they may report and 20% stated they were not sure what they would do, or they may not report. After the CE course, 100% stated they would now definitely report suspected child abuse. Before the training, 60% did not know how to make a report, and after the training, 96% stated they now knew how to file a report. There was also an increase of knowledge of the signs and symptoms of child abuse of 80% following the training course. The study concluded that training concerning child abuse increases the knowledge of how, when, and where to report.

Many studies in various disciplines have utilized questionnaires and surveys to assess the educational knowledge levels of health care providers. A significant amount of research has determined that more education concerning child abuse is needed in medical

and dental schools. Medical and dental students as well as all other health care providers are in need of resources that will make reporting suspected child abuse more accessible. Health care providers including dentists and dental hygienists need education concerning their rights as well as the laws that protect when reporting abuse cases. Some researchers state that the more education and confidence that a health care worker has in the legal system, the more likely they are to report suspected cases of abuse. More research is needed to evaluate what type of education is best in preparing students who enter the health care field.

Primary Care Clinician Decision Making:

In a larger study conducted by Flaherty et al., (2008), how often primary care physicians reported suspected child abuse and their levels of suspicion were discussed. This prospective observational study included data from 434 clinicians. While it is unlawful in the United States for physicians, nurse practitioners, and physician assistants not to report suspected cases of child abuse, fewer than 500,000 cases are reported each year to Child Protective Services (Flaherty et al., 1993). This study consisted of clinicians from the American Academy of Pediatrics Pediatric Research in Office Settings (PROS) and the National Medical Association Pediatric Research Network (NMAPedsNet). There were a total of 1694 clinicians from both organizations asked to participate. Only 511 agreed and 434 actually finished the study.

Instruments used consisted of The Practitioner Characteristic Survey (PCS). This survey discussed experiences, attitudes and education concerning suspected cases of child abuse. The survey also included questions about the clinicians past experiences with

CPS. A pilot study was also conducted. Using a 5-point Likert scale, questions about likeliness of suspected child abuse was given by the clinician. There were also close-ended questions such as race, ethnicity, age and general inquiry. The results indicated that 6 percent of the 1683 suspected child abuse injuries were reported to CPS, 73 percent of the children they thought very likely to be abused were reported, and 24 percent of the children who were only possibly abused were reported (Flaherty et al., 2008). The data collected revealed that primary care clinicians selectively report cases of suspected child abuse to CPS (Flaherty et al., 2008). As the likelihood of suspected child abuse is increased, so is the likelihood that the clinician will report it to CPS.

While this study is larger than previous studies mentioned, this research sample was limited to 327 clinicians. A case-mixture adjustment was used to eliminate a biased sample. The patients were selected randomly with a mixture of demographics. There were statistical techniques used to help eliminate observed clinician coding errors. This study, along with previous studies help to determine that there is a need for education concerning suspected child abuse and/or neglect as well as domestic violence in some cases.

Summary:

Dental hygienists are likely to treat a child who may be suffering from child abuse and/or neglect at some point in their career. With this being the case, many dental hygienists do not report suspected cases of child abuse and/or neglect for many reasons. It is important for dental hygienists to become familiar with the signs and symptoms of child abuse and/or neglect so that if there is a suspected case, it can be reported and save

a child from future harm. Dental hygienists develop relationships with their patients and are sometimes the means in which a potential victim may seek help. Dentists and dental hygienists are mandated reporters.

With a lack of education and awareness, a mandatory CE requirement has been established through the American Academy of General Dentistry concerning child abuse and neglect education. There has been little research as to what affects this new requirement will have on the rate of reporting of suspected child abuse and/or neglect.

CHAPTER III

Title of Thesis: The Impact of Mandatory Continuing Education on Maryland Dental Hygienists' Reporting Behaviors Regarding Child Abuse and Neglect[1]

ABSTRACT

Purpose: The purpose of this study was to determine the impact of the Maryland State Board of Dental Examiners mandated CE requirement on Maryland dental hygienists' child abuse and neglect reporting practices.

Methods: This research study was approved by the Institutional Review Board of the University of Maryland, Baltimore. A pilot survey conducted with a convenience sample of dental hygiene faculty members was administered prior to dissemination of the member survey to assess question clarity and ease of survey completion. Next, an initial online survey was administered to 1,641 Maryland licensed dental hygiene members of the Maryland Dental Hygienists' Association, and a follow-up survey two weeks later was used to capture additional respondents. A total of 229 participants responded. Data analysis included descriptive statistics and cross-tabbed reports.

Results: Maryland dental hygienists who had taken the Mid-Atlantic P.A.N.D.A. CE course were more likely to accurately describe the signs and symptoms of child abuse and/or neglect, but were still unsure if the signs they were witnessing in a child were truly child abuse and/or neglect. The results were similar regardless of whether the course was taken online or in a face-to-face setting.

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Conclusion: Taking a mandated CE course concerning child abuse and/or neglect does make a difference in the reporting of suspected cases of child abuse and/or neglect. Maryland dental hygienists who took a mandated CE course were more able to describe the signs of child abuse and were more likely to report a suspected case of child abuse.

Key Words: CHILD ABUSE; CHILD NEGLECT; DENTAL HYGIENIST: MID ATLANTIC P.A.N.D.A; REPORTING; CONTINUING EDUCATION

This study supports the NDHRA objective: Clinical Dental Hygiene Care: Assess how dental hygienists are using emerging science throughout the dental hygiene process of care.

INTRODUCTION

According to the United States Department of Health & Human Services (2011), an estimated 3.3 million referrals, involving the alleged maltreatment of approximately 5.9 million children, were received by child protective services CPS during fiscal year 2010. Children in the age group of birth to 1 year suffer the highest rate of child abuse and neglect, at a rate of 20.6 per 1,000 children. Victimization is nearly equal among boys and girls and occurs in all demographic, socioeconomic and minority groups. In 2009 1,537 children died in 2010 from abuse and neglect.

In 2010, 45,129 total referrals for child abuse and neglect were made in Maryland and of those referrals, 26,294 were screened-in referrals (reports and investigations made by CPS) and 7,211 children were indicated as having been abused or neglected (U.S.D.H.H.S., 2011). These children experience varied and sometimes multiple forms of maltreatment: 71.6% were neglected, 25.3% were physically abused, 13.2% were

sexually abused, and 0.2% was psychologically maltreated. There were 24 child fatalities attributed to abuse and neglect in Maryland in 2010.

The Adverse Childhood Experiences (ACES) study concluded that children who are victims of abuse or neglect in childhood suffer physical, psychological, social and emotional problems in adulthood, and become violent offenders themselves (Dube, Felitti, Dong, Chapman, Giles & Anda, 2011). The cost for caring for abused and neglected children, and treatment for offenders, is an estimated about 500 million dollars per year (Tsang & Sweet, 1999).

Each of the 50 states have developed their own definition of child abuse based on acts or behaviors identified and provided in federal legislation and the Child Abuse Prevention and Treatment Act (CAPTA) defines child abuse and neglect as; "Any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse, or exploitation; or an act or failure to act which presents an imminent risk of serious harm" (CAPTA, 2003).

Sixty five percent of physical signs of child abuse and neglect occur in the head and neck region, and may include: broken teeth, broken facial bones, facial bruises, neglected oral hygiene, torn frenum, and displaced or avulsed teeth (Mouden & Bross 1995). In 2010, the American Academy of Pediatric Dentistry confirmed dental neglect as "the willful failure of parent or guardian to seek and follow through with treatment necessary to ensure a level of oral health essential for adequate function and freedom from pain and infection." Rampant dental caries, untreated gingivitis, periodontal

disease, dental abscesses and poor nutrition are conditions that may be classified as dental neglect (Kellogg, 2005).

Dental professionals have an advantage over most health care professionals in recognizing and reporting suspected cases of child abuse and neglect because they provide routine dental care of children, frequently are the first health care professionals to render treatment to a maltreated child, and are given additional training in head and neck anatomy. It is important for dental professionals to be aware of these physical signs and report suspected cases of abuse when necessary (Kellogg, 2005). However, research shows that health care professionals do not regularly report suspected child abuse and/or neglect, and Kempe's et al.'s landmark study research attests that health care professionals do not consistently report suspected cases of child abuse to proper authorities for reasons such as: lack of education, failure of knowing where to report, denial of the problem, and lack of awareness (Kempe, 1962).

Dentists and dental hygienists are mandated reporters, and according to the American Dental Association (ADA) "Principles of Ethics and Code of Professional Conduct, their members are required to report suspected cases of child abuse and/or neglect (Katner & Brown 2012). Any mandated health professional that neglects to report a suspected case may be held legally and criminally liable (Sfikas, 1999). The Principles of Ethics also states that dental hygienists "serve as advocates for the welfare of clients". Dentists have self-reported low occurrences of referrals to Child Protective Services CPS and there are few studies that have assessed what the self-reported practices of dentist and dental hygienists have been in the past. One study conducted by Mouden & Boss claimed that less than 1% of child abuse reports have been made by dentists (1996) and to

date there is no current data available that isolates state and national reporting practices of dental hygiene professionals.

Thomas, Straffon, Inglehart, & Habil (2006) concluded that although child abuse/neglect is included in dental and dental hygiene curricula, testing students to clinical competency is less consistently integrated into professional dental education programs. Gutmann & Solomon in 2002 also found that 100% of dental schools in the United States and Canada included a class about child abuse, but many dental professionals do not feel confident in their education, and therefore do not report suspected cases. A study conducted by Tilden et al., (1994), suggested that dentists and dental hygienists are not as educated about child abuse and neglect as other health care professionals and often, they do not suspect child abuse and neglect (Tilden & et al., 1994). Additional reasons may include: lack of awareness, fear of confrontation, fear of getting involved, and denial that there is a child abuse problem (Tsang & Sweet, 1999).

Dr. Lynn Mouden, an Arkansas pediatric dentist and state Dental Health Director, formed the organization, Prevent Abuse and Neglect through Dental Awareness P.A.N.D.A., in 1992 to address the low reporting of suspected abuse and neglect by dental professionals. The Mid-Atlantic P.A.N.D.A program mission is: "To create an atmosphere of understanding in Dentistry and other professional communities which will result in the prevention of abuse and neglect through early identification and appropriate intervention for those who have been abused or neglected". This program is one of two CE courses approved by the Maryland State Board of Dental Examiners.

Effective in 2009, Maryland instituted a mandatory continuing education requirement for dental and dental hygiene license renewals, This requirement states that dentists and dental hygienists must take a Board approved, two-hour abuse and neglect CE course specific to Maryland law every other license renewal cycle (COMAR *title 10, subtitle 44, chapter 22).*

While it is a moral as well as a legal obligation to report suspected cases of child abuse and neglect, dental professionals make few reports. Mandatory CE concerning child abuse and neglect will provide opportunities for licensed dental professionals to identify signs of child abuse, learn reporting procedures, and impact earlier intervention to prevent further child maltreatment.

This research study assessed the impact of taking a mandated abuse and neglect CE course for license renewal among Maryland dental hygienists. The research questions assessed whether there is an increase rate of reporting after CE completion, the duration of impact of the CE program, the role of practice location, government compared with private clinic, the role of length of professional experience, and addressed whether there is a difference in outcome according to training mode completed in online or traditional live attendance lecture format.

Purpose of the Study:

The purpose of this study is to determine the impact of the mandated CE course, specifically Mid-Atlantic P.A.N.D.A., requirement on Maryland dental hygienists' child abuse and neglect reporting practices. No research exists regarding Maryland dental hygienists' knowledge, practice behaviors, comfort level recognizing the signs and

willingness to report suspected cases of child abuse and neglect. There is little research on how much, how frequently, and what format of education best improves the child maltreatment reporting practices of dentist and dental hygienist.

The following questions were addressed in this study:

- Is there an increased rate of reporting of suspected child abuse and/or neglect by participants who have taken the Mid-Atlantic P.A.N.D.A. course compared participants who have taken the course, The Dental Team: Advocates for Victims of Domestic Abuse course about child abuse and neglect?
- Is there an increased rate of reporting of suspected child abuse and neglect cases by participants who have taken the Mid-Atlantic P.A.N.D.A course 2 years ago as compared to participants who have taken the course within the past 3-6 months?
- Is there an increased rate in the reporting of suspected child abuse and neglect by participants employed in government supported clinics (FQHC, Health Department) as compared participants employed in private dental offices.
- Is there an increase in the reporting practices of suspected child abuse and neglect by participants with a minimum of 15 years of experience working as dental hygienists as compared to participants with less than 5 years' experience working as a dental hygienist?
- Is there a difference in the amount of reporting of suspected child abuse and neglect cases by participants that have taken the Mid-Atlantic P.A.N.D.A course online as compared to those that have taken the Mid-Atlantic P.A.N.D.A course face-to-face?

- Do participants that have fear of threat or retaliation from the suspected perpetrator as compared to participants that are not fearful of threat or retaliation from the suspected perpetrator suspect decrease in the reporting of child abuse and neglect?
- Is there a difference in the reporting practices of suspected child abuse and neglect by participants that have experienced personally child abuse and neglect as compared to participants that have never experienced child abuse and neglect personally?

Limitations of the Study:

The participants in this research study consisted of a convenience sample of licensed, Maryland dental hygienist that are active members of the Maryland Dental Hygienists' Association. The results may have been biased in that not all Maryland dental hygienists were represented and there were a higher number of participants with Baccalaureate degrees. Participants who were comfortable with the survey questions and had an interest in this topic may have been the only respondents. Survey questions that participants did not feel confident answering or questions that related directly to mandate reporting were skipped.

REVIEW OF LITERATURE

A literature search using the topics child abuse and reporting practices of dentist and/or dental hygienists will result in few articles concerning the reporting practices of dental professionals concerning child abuse and neglect. The small amount of research concerning this topic does conclude that there is a need for more information concerning child abuse to be included in the dental and dental hygienists curriculum.

A study by Gutmann & Solomon, in 2002 evaluated all 229 dental hygiene programs in the U.S to determine the amount of education presented on child abuse and other forms of abuse in their curricula/programs. The method used was a fifteen -item questionnaire that was mailed to 229 accredited dental hygiene program directors and the faculty member who was responsible for teaching child abuse awareness was instructed to respond to the survey.

Results of the returned surveys revealed, that most dental hygiene programs did offer child abuse education in their curricula, but not all programs were consistent in educating their students on the same topics, that is most topics were too broad, and faculty members were not consistent in their definition of child abuse and/or neglect. This study concluded that more research was needed to determine the most appropriate way to educate dental hygiene students about child abuse and/or neglect, and the number of hours of the training should be dedicated to the topic of child abuse and neglect (Gutmann & Solomon 2002).

The impact of family violence, including children, brings the problem into the medical setting. Primary care physicians are important components in stopping family

abuse from not being reported. This study, conducted by Sugg & Inui in 1990-1991, consisted of an open-ended interview with 38 primary care physicians working in clinics associated with an urban hospital. A total of 58 physicians, consisting of 37 percent women, and 63 percent men, were asked to participate in the interview. Forty -one took part in the interview, eight agreed to participate, and nine could not be located.

The results determined that 18 percent of the respondents stated that they did not report suspected cases of domestic violence due to fear of opening "Pandora's Box", causing feelings of "too close for comfort", or "fear of offending". Other reasons for not reporting included 55% were afraid of offending their patient, 50 % did not have knowledge as to where to report domestic violence, and 42% felt as though the situation was out of their control. Participants stated choice to leave an abusive relationship was up to the patient, and 71% stated that to report domestic violence would be time consuming. Only 2 physicians out of a total of 41 was comfortable reporting domestic violence (Sugg & Inui 1992).

While the study concluded a variety of reasons that physicians do not report domestic violence, the small sample size presented a major limitation as it was not large enough to convey the opinions of a significant number of physicians in a large demographic area,

Study conducted by Thomas et.al, (2002), evaluated the knowledge and educational experiences of dentists and dental hygienists about child abuse and child neglect. This study used a convenience sample of dental and dental hygiene students at the University of Michigan and consisted of a questionnaire answered anonymously by

233 dental students and 76 dental hygiene students using a questionnaire. The results determined that while dental students had received more child abuse and neglect education than dental hygiene students, 32% of the dental students and 13% of the dental hygiene students were not familiar with their legal responsibility of reporting suspected child abuse. Furthermore, 82% of the dental students and 79% of the dental hygiene students did not know where to report suspected cases. This study revealed a relationship between educational experiences of professional dental and dental hygiene students and an increase in reporting of suspected cases. Conclusion is that more studies are needed to evaluate what type of education is more beneficial to the students, clinical or lectures.

A recent study by Marji Harmer-Beem, in 2005, surveyed a convenience sample of dental hygienists who attended a CE training session about abuse recognition and reporting using a pre-test/post-test questionnaire. Before the CE training, 40% of the dental hygienists stated they would definitely report suspected child abuse, 40% stated they may report and 20% stated they were not sure what they would do, or they may not report. After the CE course, 100% stated they would now definitely report suspected child abuse. Before the training, 60% did not know how to make a report, and after the training, 96% stated they now knew how to file a report. There was also an increase of knowledge of the signs and symptoms of child abuse of 80% following the training course. The study concluded that training concerning child abuse increases the knowledge of how, when, and where to report.

METHODOLOGY:

The data collection process for this study included a 33-question survey that was e-mailed to 1,641 licensed, Maryland, dental hygienists who are members of the Maryland Dental Hygienists Association. In addition the researcher offered a 5-dollar gift certificate to the first 10 participants who requested an interview with the researcher regarding the topic of child abuse and/or neglect. The survey questions included the following: demographics, current and previous educational experiences concerning child abuse and/or neglect, knowledge of this topic, reasons for not reporting, and reporting practices. The questions were developed using the knowledge of professionals in the field of dental hygiene, Mid-Atlantic P.A.N.D.A, previous study and those who have taken the Mid-Atlantic P.A.N.D.A. course.

The survey was pilot tested using a sample population of five. Questions were re-worded; reorganized and grammatical errors were corrected. To protect the identity of all participants, all documents were destroyed, e-mails were not made known to the researcher, and the survey was sent via e-mail using a University of Maryland, Baltimore faculty computer. There were no eliminations of subjects who were given 24 hours to respond.

Due to the small number of responses, a second e-mail reminder was sent two weeks later. A total of 229 participants responded.

At the time of this study, there had not been prior research in Maryland, measuring the Mid-Atlantic P.A.N.D.A child abuse course, therefore there is no valid

information concerning reliability and validity and no psychometrics information related to Mid-Atlantic P.A.N.D.A.

RESULTS:

Of the 229 participants who responded to the survey, 93.2% (n=109) had taken the Mid-Atlantic P.A.N.D.A. course and 12.8% (n=15) had taken the course "The Dental Team: Advocates for Victims of Domestic Abuse".

To provide a general profile of the study participants, the demographic data was organized and its summary is presented in percentile in Table 1. Some significant features are in the variables of age and practice location. As indicated in Table 1, over 54.9% are in the age range of 40-59 years, and of the reminder 34.4% fall in 20-39 years, and only 11.6% are over 60 years old. It is also important to note that 63.3% of the research participants reported working in a suburban area, 26.1% in a large metropolitan city, and 10.6% in rural towns. In terms of years of experience, more than 54.7% of the participants indicated having over 16 years of working experience as dental hygienists, and the rest fell equally in two groups of a minimum of 10 years and between 11-15 years. The highest entry- level degree, 45.9% was a Baccalaureate degree.

Table 1: Demographics of Respondents

Age	20-29 years 13.8%	30-39 years 19.6%	40-49 years 22.8%	50-59 years 32.1%	60-69 years 10.7%
Years of Experience	0-5 years 24.4%	6-10 years 11.6%	11-15 years 9.3%	16-20 years 10.7%	20 years + **44.0%**
Entry-Level Degree	Certificate 8.3%	Associate 39.0%	Baccalaureate **45.9%**	Other 6.4%	
Primary Practice Location	Solo Private Dental Practice **50.0%**	Group Dental Practice 33.5%	Clinic/Hospital 2.2%	Education 6.3%	Government 1.3%

Research Question Responses:

In response to the research question whether taking Mid-Atlantic P.A.N.D.A has an impact on reporting practices of suspected child abuse and neglect, 40.2% of the licensed, Maryland dental hygienists who had taken the Mid-Atlantic P.A.N.D.A. confirmed that they would seek directions from their supervisor, in contrast to 46.6% who would report the suspected case to CPS on their own. It is important to state that only 11.3% would conduct further research into the problem. Table 2 is a cross tabulation of those who have taken the Mid-Atlantic P.A.N.D.A. course and reasons why those participants may not report a suspected case of child abuse.

Table 2: Reasons For Not Reporting Suspected Child Abuse

Main Reason For Not Reporting Suspected Case of Child Abuse	**Those Who Have Taken P.A.N.D.A. Course**	**Those Who Have Not Taken P.A.N.D.A Course**	**Response Totals**
Fear of retaliation	5.8%	6.3%	5.8%
Do not want to get involved	3.4%	6.3%	3.6%
No confidence in the judicial system	5.8%	0.0%	5.4%
Not sure of reporting procedure	5.8%	6.3%	5.8%
Unsure if the signs/symptoms are truly child abuse and/or neglect	**34.8%**	**37.5%**	**35.0%**
I would ALWAYS report a suspected case	**44.4%**	**43.8%**	**44.4%**

The report is significant as the data clearly indicates that 75% of those participants with no Mid-Atlantic P.A.N.D.A. training course were among those who

would request help for reporting the child abuse and or neglect case from their supervisor. In comparison, participants who took the CE course "The Dental Team: Advocates for Victims of Domestic Abuse", 44.0%% of participants would ask their supervisor what to do, and 40.0% would report the suspected case to CPS. Participants who did not take this CE course, 43.8% responded they would consult their supervisor as to what to do and 44.8% would report to CPS. Only 9.3% responded conduct more research into the problem. In response to the question "are you confident you could recognize the signs of child abuse and neglect, 83.3% of those who took the Mid-Atlantic P.A.N.D.A. responded yes, they were confident, and 91.7% of those who took the Dental Team: Advocates for Victims of Domestic Abuse responded yes, they were confident.

Concerning the time-line in which the course was taken, 58.7% of the participants that took the Mid-Atlantic P.A.N.D.A. course less than 6 months ago would report to CPS, and 45.9% of participants that took the course less than 1 year ago would report to CPS. Only 40 to 42% of participants that took the course 1 year to 3 years ago would report to CPS and a total of 50.0% of participants that took the course 2-3 years ago would seek directions from their supervisor.

Previous literature states that there was in the past, low entry-level education concerning abuse and neglect. Table 3 is a cross tabulation of the years since the participants had graduated dental hygiene school and the level of child abuse education in the entry-level dental hygiene program.

Table 3: Previous Entry-Level Education Regarding Child Abuse

Years Since Graduated Dental Hygiene School					
Level of Child Abuse Education in entry-Level DHYG Program	**0-5 years**	**6-10 years**	**11-15 years**	**16-20 years**	**Over 20 years**
Vague	29.6%	**56.0%**	42.1%	**31.8%**	24.3%
Not Enough	16.7%	16.0%	15.8%	36.4%	**38.8%**
Do not Remember	5.6%	4.0%	**26.3%**	18.2%	**30.1%**
In Depth	48.1%	24.0%	15.8%	13.6%	6.8%

In response to the research question that addressed place of employment and the reporting of dental hygienists, 100% of participants employed in a clinic responded they would report to CPS, 41.1% employed in a solo dental office would report to CPS, 47.3% employed in a group practice would report to CPS, and 66.7% employed in a government facility would report to CPS. Only 25.0% of participants employed in a pediatric office would report to CPS, with 62.5% of participants responding they would consult with their supervisor as to what to do.

In relation to years of experience working as dental hygienists, 58.3% participants with 16-20 years of experience responded they would report to CPS and 40.7%-42.3% participants with 0-10 years of experience would report to CPS.

Finally, the study addressed participants that may have been a victim of abuse themselves, or was afraid to report because of possible retaliation from the perpetrator. In regards to fear, 49.6% responded no, they were not afraid, 43.8% responded “maybe” and only 6.7% responded yes, they would be afraid. Participants who responded they had been a victim of abuse previously, 84.4% responded they would be afraid to report,

47.7% responded they would always report to CPS, and 83.3% responded they would report to save a child from further harm even though they had been a victim themselves.

Discussion:

Since most of the participants, 92.2% have taken the Mid-Atlantic P.A.N.D.A. course; this study focuses on the responses of those who have taken P.A.N.D.A. It was difficult to compare the knowledge and reporting practices of those who have taken both courses. Regardless of which course was taken, the participants responded that while they could describe the most common signs of child abuse and/or neglect, they would not always report a suspected case of child abuse and/or neglect because they were unsure that the child they were treating may actually be an abuse victim. Participants who took either course also indicated that while they would always report a suspected case of child abuse, a large number would still seek the advice of their supervisor before reporting. This also shows there may be a lack of confidence in the reporting by dental hygienists who have taken a course about child abuse. This indicates that either course may want to strengthen or reinforce the fact that dental hygienists are mandated reporters and should not seek the approval of their supervisor, and reconfirm the signs and symptoms of child abuse and neglect.

Results were similar for those participants who had taken the course either online or in a face-to-face setting when asked if they could describe the most common signs of child abuse and/or neglect. Both groups responded the same, they are at times unsure if the signs are truly child abuse and/or neglect so therefore they may not report a suspected case. Again, when asked about the reporting procedures, less than half were familiar

with how to report. This indicates that courses may want to reconfirm the reporting procedures as well as how to identify the true signs of child abuse and/or neglect, or the fact that a report should be made regardless if one is confident or not and let CPS make the determination.

To date, Maryland mandates that dental hygienists take the continuing education course every 4 years for license renewal. Participants who had taken the P.A.N.D.A. course more recently were more likely to report a suspected case of child abuse and/or neglect. Those who took the course over 2 to 3 years ago responded they would seek the advice of their supervisor. This may demonstrate that the current renewal of every 4 years may not be sufficient and should be increased to every 2 years for Maryland dental hygienists. In regards to the years of experience working as dental hygienists, those with more experience responded they would report to CPS and those with less experience would not.

A more frequent, updated knowledge about child abuse and/or neglect may increase the reporting practices of dental hygienists. Results also demonstrated that participants who were employed in a solo dental office or a group dental office would report at the same rate and those who worked in a clinic or government facility would have the highest reporting. Again, it was interesting to note that those who worked in a pediatric office with children had the lowest rate of reporting. Most of those participants responded they would consult with their supervisor as to what to do. This reinforces the need for each course to reinforce the fact that dental hygienists are mandated reporters and do not need to seek advice from their supervisor, but report.

Finally, in regards to fear of the perpetrator or being a victim themselves, most participants responded that they would always report a suspected case to CPS to save a child from further harm even if they were afraid. Only those respondents who were victims of child abuse or any other type of abuse replied they would be afraid to report a suspected case to CPS.

Conclusion:

This study identifies the need for more frequent education concerning child abuse and/or neglect. There is also a need for more focus on the need for mandated reporters to make the decision themselves to report suspected cases without seeking the permission or advice from their supervisor. Although 100% of the participants responded they would always report a suspected case of child abuse and/or neglect, the results of the survey reveals there is a lack of confidence on the part of the dental hygienists when it comes to reporting child abuse and neglect. The method at which the course is taken does not influence the reporting practices and those with more practice experience are more likely to report.

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