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Impact of early childhood perceptions and experiences on oral health practices in later life

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IMPACT OF EARLY CHILDHOOD PERCEPTIONS AND EXPERIENCES ON ORAL HEALTH PRACTICES IN LATER LIFE

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Thesis submitted to the
School of Dentistry at West Virginia University
in partial fulfillment of the requirements
for the degree of

Master of Science
In
Dental Hygiene

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2002

ABSTRACT

Impact of Early Childhood Perceptions and Experiences on Oral Health Practices in Later Life

Johnna M. Guzzi

Older adults are at a higher risk for numerous oral and systemic diseases. Oral conditions experienced by the elderly are believed to be cumulative. The purpose of this study was to determine if a relationship exists between early childhood dental care practices/experiences and perceived oral health needs of persons 60 years of age and older who are participants of three West Virginia facilities for the elderly (N=90). Individuals were interviewed utilizing a two-part 21-item survey. Data analyses, including analysis of variance and tests of chi square, were conducted using the JMP program. Although individuals felt dental health was important, the majority did not have a dentist of record as a child and were edentulous. Results revealed a direct correlation in caries experience as a child and caries experience as an adult ($p \leq .05$). It can be concluded that the lack of early dental intervention has a strong impact on dental health practices and oral health status of adults.

DEDICATION

To my parents, John and Cyndy, my sister Gina, my favorite Aunt Patty, Uncle Frank, cousin Beth Anne, and Darin who have provided me with unrelenting love, support, and encouragement while accomplishing my educational endeavors.

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CHAPTER ONE

IMPACT OF EARLY CHILDHOOD PERCEPTIONS AND EXPERIENCES ON ORAL HEALTH PRACTICES IN LATER LIFE

INTRODUCTION

A person's behavior is determined by their beliefs, values, and socioeconomic status. It can be expected that early childhood beliefs and experiences can affect behaviors for years to come and oral health practices are no exception. The knowledge base and overall oral health of the elderly population would be strengthened if they learned appropriate oral hygiene measures as a child. Nevertheless, it is not too late to educate the elderly about the various disease processes that are a result of poor oral hygiene, the importance of routine dental care, the myth that tooth loss is an inevitable process of aging, and the ways to perform proper oral hygiene and access to oral care.

Older adults are at a higher risk for numerous oral conditions and diseases due to age related physiological changes, use of medications, and underlying chronic diseases. This is compounded by the fact that most retired persons lack dental insurance. Medicare does not offer dental coverage and in most states Medicaid does not offer adult coverage. Studies have shown a strong correlation between a lack of dental insurance and people not seeking dental care. A 1996 study showed that the elderly visit the dentist more

frequently now than in the past; however, only 43% went to the dentist once a year for routine dental visits or emergency visits.¹ Columbia Presbyterian Medical Center's (CPMC) website states, "Of the 30 million persons 65 years and older in 1998, approximately 6% had dental insurance. However, older adults seeking to purchase dental insurance are hard pressed to find any dental plans open to them."² Those persons who are edentate are also less likely to seek dental care. The dramatic increase of the elderly population poses many challenges with daily oral hygiene care (brushing, flossing). This, in turn, often results in dental diseases (periodontal and dental caries).³

This study was conducted in Calhoun County, West Virginia as part of a three-tier project. The first tier addressed early childhood dental care practices/experiences. The second tier assessed perceived oral health needs of the elderly. The final tier involved the actual oral health needs of the elderly. The purpose of this study was to address two tiers of a three tier project which included determining if a relationship existed between early childhood dental care practices/experiences (Tier I) and perceived oral health needs/practices (Tier II) of persons 60 years and older who were regular participants of three service programs for the elderly. These programs were Calhoun County Committee on Aging (hereafter referred to as the senior center or CCCOA), Minnora (a satellite nutrition site of the CCCOA), and Bramblewood (a residential complex for the elderly). Various forms of assessment (interview, screening) played an important role in identifying the oral health needs of the population of elderly in Calhoun County, West Virginia. An interview utilizing a set of questions was used to obtain pertinent information.

STATEMENT OF THE PROBLEM

Elderly persons in West Virginia exhibit a high rate of edentulism.

SIGNIFICANCE OF THE STUDY

There were six key reasons why this study was important. First, the nation's elderly are increasing in numbers and they have a much more active lifestyle than ever before. A recent article by Meckstroth states, "To ensure that the oral health of the elderly is not overlooked, dental and other health care professionals, policy makers, and advocates for the elderly should educate themselves about this population shift and become very active in establishing and refining plans made to promote wellness and active aging." ⁴

Second, many elderly people do not visit the dentist on a regular basis. Their reasons range from cost, transportation, and fear, to the feeling that regular visits are unnecessary or not important.⁵ Key roles of the dental professional should be to assess the oral health needs of the elderly and employ methods of evaluating their involvement and concern with their own oral health. Such assessment and evaluation would allow for the design of individualized oral health recommendations most beneficial for the elderly patient. The dental profession is growing due to advances in both technology and research; therefore, the care that dental professionals give to elderly patients should advance and change with the growing knowledge base related to geriatric oral health.

Dental professionals need to become increasingly aware of the oral health needs of the elderly due to the fact that they comprise a greater portion of the population and their increased activity level make them a more vital segment of society.⁴

Third, oral health impacts systemic health. Dr. Clamencia Vargas states, “There are associations between oral health and general health and well-being. For example, the loss of self-esteem is associated with the loss of teeth and untreated dental disease (caries and periodontal) as well as the economic burden of dental care due to the paucity of dental insurance programs for the elderly. Although oral health problems are not usually associated with death, oral cancers result in nearly 8,000 deaths each year, and more than half of these deaths occur among persons 65 years of age and older.”⁵ Vargas also states, “Oral health problems may hinder a person’s ability to be free of pain and discomfort, to maintain a satisfying and nutritious diet, and to enjoy interpersonal relationships and a positive self-image. Overall, oral health problems are more frequently found in an older adult population for whom oral health problems are often not a priority.”⁵

Fourth, from a state level, there are numerous barriers to oral health care that are indigenous to rural West Virginia. Barriers include restricted accessibility to transportation, limited finances, lack of healthcare providers in the region, limited dental health knowledge, limited availability of a caregiver to provide time and/or transportation, and preconceived attitudes and values concerning healthcare. Individuals may not have transportation or they may have to travel great distances from their home to the dental office. Senior citizens may depend on their caregiver to provide their time and transportation to visit the dentist, which may not allow for regular preventive care to occur. Interestingly, the results from a study commissioned from 1995-1997 showed

West Virginia ranked number one in edentulism in the United States.⁶ Elderly persons may not understand the importance of obtaining optimum oral health. This may be due to their educational background or attitudes toward oral health care. West Virginians have a great deal of pride and prefer to be self-reliant in their healthcare management.

Fifth, from a local level, there are limited opportunities for the residents of Calhoun County to obtain oral assessments. There is only one dentist in the county who works three days a week with no dental hygienist on staff. This may cause a problem for the elderly because of the limited availability of dentists in the area who offer services reimbursed by Medicare/Medicaid. This too may limit people from visiting the dentist due to their inability to pay for services rendered.

Sixth, childhood attitudes, values, and experiences influence later practices. Vargas comments, “Considering caries and periodontal diseases, the most common oral health problems are cumulative. Older persons often endure the consequences of their oral health experiences from earlier years such as missing teeth, large fillings, and the loss of tooth support. These problems can be complicated by their decreased ability to care for their oral health.”⁵

Findings from this study will be utilized as baseline data for future research, to generate reports for government officials, and to identify funding for intervention.

Based on the literature available, it appears that no prior study has been conducted that investigated the relationship between early childhood oral health care beliefs, practices and experiences, perceived oral health need, and actual needs of the elderly.

RESEARCH QUESTIONS TO BE ANSWERED

Nine research questions form the basis for this study:

1. Is there an association between early childhood oral health practices and current oral health practices in regard to:
 - A. Oral hygiene measures
 - B. Regularity of dental visits

2. Did parents of individuals surveyed perceive the importance of oral health differently for themselves than for their children?

3. Did individuals surveyed perceive the importance of oral health differently for themselves than for their parents?

4. What is the relationship between:
 - A. Sucrose intake and caries experience (child and adult)?
 - B. Visits to the dentist and caries experience (child and adult)?
 - C. Bottle-feeding and caries experience (child and adult)?

5. In this sample population, does the number of caries experienced in primary teeth correlate with the number of caries found in the permanent teeth?

6. Is there an association between early childhood oral health practices and current number of teeth in the participant's dentition?

7. Did the reasons for not seeking dental care differ in childhood than adulthood for this population?

8. Does the general health status of the individual have any effect on their oral health status? For example, multiple medications and dry mouth; chronic/terminal illness—arthritis and ability to perform oral care.

9. Is there a difference between regularity of dental visits and patient demographics?
 - A. Gender
 - B. Marital status
 - C. Education level

OPERATIONAL DEFINITIONS

Calhoun County

Committee on Aging (CCCOA) A senior center located in Grantsville, WV. A place where senior citizens have meals and participate in various activities.

Minnora

A Senior Center satellite nutrition site located in Calhoun County.

Bramblewood

A residential complex for the elderly located in Grantsville.

Geriatric Dentistry	The specialty of dentistry that focuses on the oral health needs of the aging population.
Dentate	Possessing predominantly natural teeth.
Edentate/Edentulous	Without teeth.
Full Dentures	The full replacement of teeth, bone, and gingiva following extraction of the teeth.
Partial Dentures	The replacement prosthesis for missing teeth.
Periodontal Disease	An infection of the supporting structures of the teeth.
Dental Caries	An infection of the teeth. Also known as dental decay/cavities.
Chronic/Terminal Illness	Disease process characterized by a long, slow course.
Xerostomia	Dryness of the mouth caused by functional or organic disturbances of the salivary glands.
Multiple Medications	Taking more than three medications at the same time.

Medicare	1965—Amendment to Social Security Act Title XVIII provided for the receipt of health care services by all persons 65 and over, regardless of their ability to pay. Dental Services: limited to those services requiring hospitalization for treatment (surgical treatment for fractures, oral cancer.)
Medicaid	1965—Amendment to Social Security Act Title XIX—bring access to health care to the indigent and medically indigent segments of the population. Dental Services: dental care limited to children \leq age 20.

ASSUMPTIONS

The investigator has assumed:

- Each individual is at least 60 years of age and a resident of Calhoun County.
- Each individual voluntarily participated in the study.

LIMITATIONS

Potential limitations of this study include:

- Since the convenience sample was limited to mobile seniors attending the senior center, a satellite nutrition site, and a residential complex, these findings may not be representative of the elderly population.
- There was a limited amount of time to conduct interviews.

- Patients may have participated more willingly if interviewed in a group setting rather than individually.
- Oral interviews were conducted due to the potential of illiteracy and sensory problems in the study population, which limited participants' openness.
- The instrument was not previously tested for validity and reliability.

DELIMITATIONS

This study surveyed individuals 60+ years of age who are residents of Calhoun County, West Virginia and attend Calhoun County Committee on Aging programs or reside in the selected residential complex.

CHAPTER TWO

LITERATURE REVIEW INTRODUCTION

The literature review is comprised of an introduction, nine categories, and a conclusion. Categories are provided below:

- Relationship of Oral Health to Systemic Disease
- Purpose of Obtaining Optimum Oral Health
- Prevention Measures
- Barriers to Access
- Providing Dental Care to Institutionalized Individuals and Older Adults
- Education and Attitudes of Dental Professionals
- Health Habits
- Health Attitudes and Habits of Appalachians
- Women's Health Seeking Behaviors

In the United States, the elderly make up twelve percent of the population; however, historic and projected trends estimate a thirty-four percent increase over the

next two decades.⁷ With more seniors living longer, the government, healthcare professionals, and human service agencies will face various challenges. In order to provide the elderly with optimum oral care, dental professionals, policy makers, and advocates for senior citizens need to keep informed on ways to increase wellness and active aging.⁶

Oral Health America: Older Adults website states, Despite the advances in dental care, many adults have limited access due to a multitude of factors, including emotional and physical stresses associated with the aging process; complex physical and mental disabilities resulting from chronic diseases; physical barriers to access to care due to the geographic isolation and/or the lack of specially designed dental care facilities; the financial restrictions of a low or fixed personal income; and a pattern of not receiving dental care throughout life.⁸

Dr. David Matear's research states, "From 1963-1984 worldwide, the elderly visited the dentist less than any other age group."⁹ However, studies indicate as people age, they assign a higher priority for keeping their teeth. They will be more likely to seek financial means for dental care.⁹

RELATIONSHIP OF ORAL HEALTH TO SYSTEMIC DISEASE

There are many diseases related to the mouth, which include: dental caries, root caries, periodontal disease, and oral cancer. One of the main reasons for tooth loss is dental caries. In 1988-94, research shows one-third of individuals 65+ had untreated caries in either the crown or root of their teeth. In the United States, the overall prevalence of dental caries has decreased; however, older adults with low socioeconomic status have not been included in this research.⁵

CPMC's website states, "Older adults have several risk factors for root caries, including an increase in tooth surfaces available for disease due to the recession of gums

and the lack of fluorinated water supply when the teeth and roots were developing. Generally root caries are more difficult for the dentist to restore than coronal caries, and, it is much easier to prevent root caries than to restore teeth with them.”¹⁰

An infection of the supporting structures of the teeth is termed periodontal disease. If this disease is left untreated, tooth loss is the end result. As people get older, the prevalence of periodontal disease increases. Persons 25-34 years of age have a 6% chance of having periodontal disease and those 65 years and older have a 41% chance. This increase is due to the ramifications of the disease (recession and bone loss), which is more evident in the elderly.⁵ Dr. Clamencia Vargas states, “Preventing periodontal disease is particularly relevant because recent studies have shown a possible association between these diseases and diabetes and cardiovascular diseases, which are major causes of death among the elderly population.”⁵ Scientists are currently studying several opportunistic bacteria from the oral cavity to determine if they may cause an inflammatory response in the body that may contribute to heart disease and stroke. Scientific research has also shown that periodontal disease and other chronic infections negatively affect glucose control and therefore contribute to uncontrolled diabetes. Research continues to address the links between periodontal and systemic diseases.¹¹

In addition, individuals 65 years and older have a higher risk of developing oral cancer (lip, oral cavity, and pharynx) than anyone else. Approximately 30,000 cases of oral cancer (oral cavity and pharyngeal) are diagnosed annually, primarily in elderly patients.¹² Dr. Vargas also states, “In 1997, 4,775 people 65 years and older died as a result of oral cancer.”⁵ The *Tobacco and the Elderly Notes* website states, “Smoking (cigarette, pipe, or cigar), particularly when combined with heavy alcohol consumption,

is the primary risk factor for approximately 75% of oral cancers in the U.S., according to the CDC. Thus, oral cancer is a very preventable disease, if one simply doesn't smoke."

¹³ The website of *Interventions for Elder Health Promotion* recommends an oral exam annually for all elderly persons as a routine preventive measure.¹³ Practicing proper oral health care can help prevent the diseases previously discussed.

PURPOSE OF OBTAINING OPTIMUM ORAL HEALTH

Oral health is an important part of one's general health and well-being. It is often overlooked in or by elderly people. Pain and suffering are a direct result of poor oral care and neglect. Loss of teeth, multiple medications, and difficulty in eating due to dry mouth are contributing factors to oral pain.⁵

A variety of oral conditions may hinder the patient's ability to have optimal health. When a patient has difficulty eating it may be due to ill-fitting dentures, inflammation, or infection. Also, a person may develop depression if faced with severe oral problems that cause them to avoid others or to cease activities they once enjoyed.¹⁴

Multiple medications may cause various side effects. The primary side effect is xerostomia (dry mouth). Xerostomia can cause problems with talking, chewing, or swallowing as well as increased caries risk and problems with soft tissue. Also, the ability to wear dentures may decrease when a person has a dry mouth.⁵ For example, medications such as antihistamines, diuretics, and antidepressants often result in xerostomia.¹⁵ However, despite the aforementioned factors or conditions, a person can improve their oral health care by practicing various prevention measures.

PREVENTION MEASURES

A routine dental visit is the best way to evaluate the patient's oral status as well as provide prevention, early detection, and treatment of oral health problems. It also allows dental professionals to review oral hygiene practices performed at home. It is important for edentulous patients to have routine dental care which includes a soft tissue evaluation and any needed prostheses adjustments. Research done in 1997 stated that edentulous persons were not as likely to report a dental visit in the past year as were dentate individuals.⁵

Individuals who do not receive routine oral care may not see the dentist until they have unbearable pain. Dental professionals should realize that older patients regard acute pain as a normal consequence of aging.¹⁶ The presence of pain indicates that periodontal disease, dental caries, or root caries are in advanced stages. This results in more complicated dental procedures as well as higher fees for the patient. However, if a patient seeks regular care early, dental professionals are able to identify the patients' needs in minimizing the progression of diseases previously discussed.⁵

Since oral health plays such a significant role in systemic disease, dental professionals must take additional time to thoroughly question the elderly individual on all four domains of dental need (function, symptomatology, pathology, and esthetics).¹⁶ When determining the needs of the individual patient, dental professionals help create a network with various other health professionals and therefore, contribute to more thorough healthcare. In attempting to provide thorough care, the dental professionals must use adequate and appropriate equipment.

DENTAL EQUIPMENT. Portable equipment is necessary to provide proper care for elderly who are homebound or residing in long-term care facilities. This equipment can be transported in a vehicle and subsequently placed in a specific room in the facility or patient's home to conduct screenings and provide mouth care. This would enable non-ambulatory patients to seek dental care.⁹

MEDIA. Dental education should be available to everyone regardless of age, cognitive impairments, literacy level, etc. Literature specifically on proper oral hygiene practices and geriatric needs should be large-print and available in senior centers, dental offices, and other healthcare facilities. Senior newspapers and magazines should include articles on geriatric dentistry. In-services to staff (senior centers and long-term care facilities) and informational presentations to community members should be conducted by dental professionals to keep elderly patients informed and involved in their oral health. Dental professionals should provide business cards, appointment cards, and brochures in large-print to ensure that the elderly patients are aware of dates, times, and place of appointments.⁹

Internet-based geriatric dentistry information could be a very useful tool for both dental professionals and patients. Bonnin states, "Cyberspace has become one of the most popular forms of mass communication in this decade."¹⁷ Many dental practices have designed their own web pages. Elderly patients with Internet access can search for dental practices online. They can access the names of staff, the address and phone number of the office, credentials, specialties, mission statement, and even submit a form to the office if interested in an appointment. Dental offices could send Web page newsletters to patients, allow patients to schedule appointments online, and have chat rooms where

patients ask the dentist questions. Also, current patients could be contacted online to send electronic appointment reminders.¹⁷

If the individual does not have Internet access, dental offices can provide a computer workstation in the waiting area for patients to access the Web. In addition to this, many senior centers provide multiple computers for the elderly to utilize the Internet at their convenience.¹⁷

FACILITIES. Dental offices should be accessible for each individual patient. Ramps and handrails are helpful adjuncts as are operatories that are wheelchair accessible.⁹ The elderly might visit the dentist more frequently if they felt comfortable in the office. Specific factors to consider when designing an office include careful selection and placement of signs that support independent communication for the elderly; sturdy chairs with arms for support; improved lighting in the office to decrease visual or mental confusion; and arrangement of furniture in waiting areas to promote a welcoming approach that is easily accessible.⁹

TRENDS CONCERNING EDENTULISM. *Preventive Dentistry for the Older Adult* website states, “ Most persons currently older than 60 years were not introduced to the concept of preventive dentistry at a young age and thus are not inclined to it.”¹⁸ The improvement of oral health status with individuals 65 years and older should continue as elderly become more educated, affluent, and keep their own teeth. This will demonstrate that as one’s age increases, tooth loss and oral disease does not have to occur.⁵

While it is encouraging that older people are keeping their natural teeth, they are also more susceptible to dental diseases and will require more services (periodontal,

preventive, and restorative). Elderly have more extensive dental problems, which may be exacerbated by their various medical problems. For example, it is difficult for some elderly persons to floss their teeth due to arthritis. Research shows more and more elderly persons have their natural dentition. However, there is a constant challenge to successfully care for the dental needs of the elderly population.⁵

In 1993, a study was conducted on the prevalence of edentulism among persons 65 years of age and older. There were no gender differences; however, the prevalence of edentulism by economic status demonstrated a large difference. People considered to be below the poverty level are twice as likely to be edentulous when compared to people who are at or above the poverty level. In 1995-97, research was conducted with nursing home residents 75 years of age and older, and it was found that 52% were edentulous. The prevalence of tooth loss of these residents also varied from state to state. Hawaii had 14% prevalence, while both Oregon and California had 16%. Kentucky had 44% prevalence of tooth loss and West Virginia had the highest prevalence at 48%.⁵

The Centers for Disease Control and Prevention and the Association of State Territorial Dental Directors (ASTDD) provided the 1999 percentages of West Virginians (65+) who have lost all natural permanent teeth. Statistics also exist for other variables regarding tooth loss. When evaluating the link between an individual's level of education and total loss of teeth, it was found that 63.5% of these persons had less than twelve years of education, 36.7% were high school graduates, and 22.4% were individuals with more than twelve years of education. Gender differences show that males made up 41% and females made up 44.8%. Income results show individuals that make less than \$15,000 a year comprised 62.8% and individuals that make \$15,000 or more each year comprised

34.4%.¹⁹ Based on these results, the less education and income a person has, the increased probability of edentulism. Approximately 43.2% of elderly West Virginians have complete tooth loss. Edentulism is a primary reason patients do not visit the dentist; however, there are additional barriers that inhibit the elderly from receiving routine oral care.²⁰

BARRIERS TO ACCESS

There are three common reasons why the elderly do not seek dental care. They are finances, transportation, and lack of perceived need. A survey was conducted in 1996 to determine why older Americans did not visit the dentist on a routine basis. The most frequent survey responses were “no mouth problem” (31%) or “no teeth” (50%). Anxiety, finances, and accessibility comprised 5% of the responses. The individuals with a higher socioeconomic status plus a college education are twice as likely to seek dental care than individuals who have a lower educational background.⁵

Dental insurance is a benefit for some working individuals; however, after retirement the benefit is gone. Persons who enjoy benefits from Medicare or Medicaid do not have complete dental coverage. Medicaid varies from state to state in regards to oral health coverage for low income and disabled elderly people. Medicare does not provide routine/preventive coverage for the elderly.⁵ The *Oral Health Index* reports, “Medicare will only pay for the setting of fractures of the jaw when performed in the hospital setting. It may also pay for the removal of teeth when completed in a hospital setting—but not their replacement.”² Nancy Jeffrey states, “Although Medicare cuts have dominated headlines in recent years, the fact is the federally subsidized health-

insurance program provides relatively rich coverage for the medical costs of the over-65 set. But Medicare, which covers about 38 million seniors and disabled people, provides for virtually no dental expenses in its fee-for service program.”²¹

Dr. Matear also states, “It is important, therefore, that education in geriatric dentistry include not only the practical, clinical aspects of treating the elderly, but the social, environmental, psychological, behavioral, and financial aspects as well.”⁹

Attitudes of dental professionals toward the treatment of older patients can also create barriers. In the very near future, the demand for geriatric care will far exceed the number of dentists currently willing and able to provide such care.⁹

PROVIDING DENTAL CARE TO INSTITUTIONALIZED INDIVIDUALS AND OLDER ADULTS

INSTITUTIONALIZED INDIVIDUALS. Ms. Bray states, “Approximately 1.5 million (5%) of persons over the age of 65 live in long-term care institutions. For every person age 65 and older who resides in a long-term care facility, there are at least two others who live in the community who need assistance with daily living.”²² Nursing home residents with physical limitations may also suffer from dental care neglect. This is due to the resident’s inability to do self-care and the multiple responsibilities of staff.²³

Dental hygienists are the primary providers of dental health education. They educate patients on a daily basis, visit schools to explain the importance of good oral hygiene, and conduct in-service presentations to long-term care and other residential facility staff regarding the residents’ oral care. At this time, twenty states allow dental hygienists to work in nursing homes under general supervision or a degree of unsupervised practice in some cases. West Virginia is not included; however, in both

Maryland and Pennsylvania dental hygienists are able to practice under general supervision. According to the Manager of Governmental Affairs at the American Dental Hygienists Association (ADHA), it is important to understand that most states require permission from the state dental board and the dental hygienist may need special experience or training to practice under general supervision.²⁴ Nursing staffs and dental professionals need to continue to work together to become more educated regarding the elderly patient.

OLDER ADULTS. The *Oral Health America* website states,

From the start of life to the end of life, our overall health depends on good oral health. Oral Health America embraces oral health goals achieved through shared resources, improved community networking, and increased visibility at the state and national level. We are working to ensure that Americans live free of oral diseases by facilitating programs, research, public education, and improved access to oral health care. The un-met dental healthcare needs of Americans are 50% higher than needs in medical or surgical areas. With Oral Health America's support, public and private groups are working to find short- and long-term solutions that improve access to dental services for our aging population.²⁵

EDUCATION AND ATTITUDES OF DENTAL PROFESSIONALS

EDUCATION. In order to effectively care for elderly patients, dental professionals should subscribe to geriatric literature and participate in interdisciplinary team training to address the patient's needs. Dental professionals must keep updated on special needs, while demonstrating a sense of compassion and understanding toward the patient.⁹

ATTITUDES. There are many reasons why the elderly population has been neglected. These reasons include: financial limitations, problems accessing transportation, and dental professionals who may have negative attitudes toward elderly

needs or limited experience treating geriatric patients. In order to effectively treat this population, the dental professionals must understand and sympathize with the medical, psychological, and financial status of the elderly patient.⁹

HEALTH HABITS

Currently, there are no longitudinal studies that address dental practices in early childhood and later life. Studies have been conducted to determine if psychosocial and eating characteristics in early teenage years are predictors for eating attitudes and behaviors in early adulthood. One particular study showed how early teenage characteristics such as low self-esteem, perfectionism, family dysfunction, and negative eating attitudes result in unhealthy eating patterns in later life. The study also suggests interviewing subjects at an earlier age since eating disorders can begin prior to puberty.²⁶

HEALTH ATTITUDES AND HABITS OF APPALACHIANS

An ethnographic study of Appalachian people was conducted by a group of nurses, which attempted to explain the lifestyle, priorities, health conditions, and healthcare practices of these residents. It was determined that Appalachian individuals try to solve their own problems. Also, they have low dental care seeking behaviors. Many different aspects must be taken into consideration when working with Appalachian individuals such as personal beliefs, attitudes, and past experiences. These individuals are very proud of their independence and ability to take care of themselves and their own. In order to have a positive effect, healthcare professionals should provide information early on for the Appalachians in a nonjudgmental manner.²⁷

Appalachians follow a ten-step hierarchy when dealing with health problems until pain relief is achieved. The steps include the following:

1. Implement self-care practices learned from mother when symptoms develop.
2. Call mother if symptoms persist.
3. Call another female if mother is unavailable.
4. Use an over-the-counter (OTC) medication advertised on television that is similar to their symptoms.
5. Use “Mable’s Medicine” (a neighbor, who has medicine left over when she had the same symptoms).
6. Contact a local pharmacist and insist on an OTC recommendation.
7. Contact a health care provider.
8. Referral to a specialist.
9. A specialist treats the condition.
10. Referral to closest tertiary medical center.

The ten steps may be conducted over several years. Misunderstandings and lack of trust seem to surround facilities of medical care. This stems from the fact that by the time Appalachians are referred to medical centers, they are beyond medical treatment and do not survive.²⁷

WOMEN’S HEALTH SEEKING BEHAVIORS

Women tend to outlive men by at least seven years. This may be a result of visiting the doctor 150% more than men. Women are the primary caregivers when a family member needs healthcare attention. In order to help their spouses and significant

others live longer, women should learn about the various health risks men confront daily. Together women can work with their partners to acquire healthier standards of living as well as routine preventive check-ups.²⁸

CONCLUSION

Each year, more individuals become homebound or institutionalized as they age. As a result, the oral health problems of elderly (caries, periodontal disease, complete/partial edentulism, etc.) will likely increase as well. Even though a person's teeth were vital and functional at one time, there is a threat that their dentition will be compromised due to medical, behavioral, and financial factors.⁹ It is imperative to broaden the scope of education and practice for dentists and dental hygienists to accommodate the oral health needs of the elderly population.

Dr. Matear's article states, "The burden of providing much of the dental care for the aging population rests with the private dental practitioner and those few practitioners who provide institutionalized care." This burden could be somewhat alleviated if legislators in most states pass a bill granting permission for dental hygienists to provide oral care in nursing homes without direct supervision.⁹ This would allow the residents of these facilities to receive an evaluation and oral hygiene instruction as well as a referral for dental treatment. Policy makers should enforce more dental services for the "functionally dependent" elderly patients who are unable to access traditional dental care.

When government funding is limited, training programs for geriatric dental care are negatively affected. Dental schools should implement more geriatric training at both the undergraduate and graduate levels. Dental and dental hygiene faculty should include

this instruction in the curriculum. Educational materials can be provided to the elderly so they can become more informed about oral health and educational training programs should be conducted routinely for nursing home staff.⁹

The ideal opportunity to reduce elderly patients' dental needs occurs when they are educated as children. Integrating visits to the dentist at an early age and maintaining routine oral care may help influence positive and proactive oral health habits in later life. It would appear that proper homecare and regular dental care as a child would help encourage optimal dental health as an adult. Dental professionals play an important role in educating children on the importance of oral hygiene by participating in annual school programs.

CHAPTER THREE

INTRODUCTION

The purpose of this research was to address two tiers of a three-tier project. These two tiers included determining the relationship between early childhood dental care practices/experiences (Tier I) and perceived oral health needs/practices (Tier II) of persons 60 years of age and older who are regular participants of the Calhoun County Committee on Aging (CCCOA), a satellite nutrition site (Minnora), and a residential complex (Bramblewood). Various forms of assessment (interview, screening) played an important role in identifying the oral health needs of an elderly population in Calhoun County, West Virginia. An interview utilizing a set of questions was used to obtain pertinent information.

SAMPLE DESCRIPTION

The population consisted of elderly persons (60+) who are residents of Calhoun County, West Virginia (n=90). The literature traditionally classifies geriatric persons at age 65 years and older; however, CCCOA invites senior citizens 60 years and older to participate in various activities. A two-part, 21-question survey was utilized to interview participants regarding their childhood oral health history and experiences (Tier I) and

current oral status (Tier II). Participants were interviewed individually in a private setting. Eighty-four of the participants were interviewed at the senior center. Five participants were interviewed at the Minnora site and one person at Bramblewood.

Appropriate written permission to conduct the study was granted for IRB approval by the Associate Dean of WVU School of Dentistry. All information was kept confidential and reported in group form only. The study was submitted to the Institutional Review Board for the Protection of Human Subjects of West Virginia University and expedited approval was received to conduct the study at the CCCOA in Grantsville, WV. Two addenda were later submitted to include a CCCOA satellite nutrition site located in the southern end of Calhoun County in Minnora, WV and the Bramblewood residential complex in Grantsville, WV. This application can be found in Appendix A.

Initially, this county was chosen for a two-part study addressing the perceived oral health needs and actual needs of the elderly. A third component to complete the assessment of this group was initiated. This addressed the early childhood dental care practices and experiences. Due to the chronological order evaluating the life cycle, the third component became tier one of this study. The project assessed both tiers one and two in the following format.

The survey packet, located in Appendices B-D included the following:

- Attachment 1- Interviewer Copy (B)
- Participant Copy (B)
- Two consent and information forms (C)
- Attachment 2- Survey (D)

Each survey packet had the following papers in a specific order. The first page was titled Attachment 1-the interviewer copy, which contained an introduction to the research project and its purpose. The introduction stated that the survey was voluntary and all answers would be kept confidential. If the participant chose not to answer a question, the survey was still acceptable for use in the study.

The second page was titled the Participant Copy. It was a letter to the participant explaining the research project and its purpose. The letter also explained the voluntary dental screening with a supervising dentist. Two contact persons and phone numbers were given if the participants had any questions at a later date. The principal investigator for the three-tier study signed the participant copy.

The survey packet also included two cover letters and two consent and information forms. The cover letter explained that the purpose of the study was to learn more about oral health history, current oral health issues, and the level of knowledge among elderly residents in Calhoun County in order to obtain baseline data for the purposes of program development and future research comparisons. The consent and information forms provided a detailed explanation of what would occur during the interview. A three-page consent and information form had to be read and signed by the participant prior to the interview. A second copy was given to the individual to keep.

The second part of the introduction invited each person to participate in a free, voluntary, dental screening by a supervising dentist. In order to maintain confidentiality, no participant names were used and a corresponding number was assigned to both the interview and the oral screening results to facilitate comparison.

In the beginning of the survey, there were two sections of questions and participant demographics, such as age, gender, etc. The first section had detailed questions about the participant's experiences with oral care as a child. The second section focused on the participant's current oral health. The three page surveys were kept in a lock-box until an individual was interviewed.

The survey comprised two tiers of a three-tier project. There are two parts to the document. The first tier consisted of 18 questions regarding the participant's childhood oral health history and experiences. The second tier had 25 questions pertaining to the perceived oral health needs of the individual. The final tier involved a voluntary dental screening. For this investigation, only tier one and tier two were included.

The investigator interviewed each participant individually. Surveys were numbered and kept in a lock-box to maintain confidentiality. Upon completion of the interview, participants received toothbrushes and toothpaste along with various educational pamphlets. Fixodent kits were available for participants with full or partial dentures. Individuals were invited to participate in the oral screening once the interview was completed. The investigator kept all completed surveys, blank surveys, signed consent forms, and oral screening reports in a lock box within a secure area. Survey results were shared only with co-investigators.

RESEARCH DESIGN

The research design utilized individual interviews with a two-part survey. This was a non-experimental, descriptive research project. The purpose of the interviews was to assist the researcher with the interpretation of each individual's dental

practices/experiences as a child as well as actual oral health needs of the individual as an adult. This information was then carefully evaluated to identify oral health needs of Calhoun County elderly and to determine if there is a correlation between early childhood experiences and perceived oral health needs.

METHODOLOGY

A convenience sample (n=90) of elderly persons (age 60+) residing in Calhoun County, West Virginia, were interviewed by using a two-part, 21-item survey regarding their childhood oral health history and experiences (Tier I) and current oral status (Tier II). Volunteers were solicited by newspaper advertisements, announcements at the senior center, and direct contact with individuals at a residential complex. A survey form was prepared which asked questions pertaining to childhood oral health history and experiences and current status.

Information requested on the survey included:

- Demographics--Age, gender, educational level, and marital status.
- Manner of being fed as a baby.
- Reason for cavities.
- Reasons for not going with regularity to the dentist.
- Mouth care done as a child.
- Types of foods.
- Amount of sweets consumed.
- Reason for not having a dentist.
- Routine oral care done regularly.
- Childhood and adult oral hygiene measures.
- Childhood and adult regularity of dental visits.
- Various mouth conditions experienced by the participant.

- Importance of oral health to the participant's parents.
- Importance of dental health to participants.
- Sucrose intake and caries experience.
- Visits to the dentist and caries experience.
- Bottle-feeding and caries experience.
- Number of cavities in both primary and permanent teeth.
- Early childhood oral health practices and current number of teeth in dentition.
- Reasons for not seeking dental care as children and as adults.
- Gender and dental visits.
- Marital status and dental visits.
- Educational level and dental visits.

DATA ANALYSIS

Each survey was tabulated on a Microsoft Excel spreadsheet using the numerical value for each response present on the survey. Statistical analysis of the data was performed using the JMP program. Results were reported in frequencies, cumulative frequencies, percents, analysis of variance, and Chi Square. Fisher's Exact tests, Pearson tests and Likelihood Ratio were utilized with the statistical analysis.

CHAPTER FOUR

RESULTS AND DISCUSSION

RESULTS

A total of ninety persons aged 60+ participated in this study. Response rate per question item may vary depending on the individual's experiences. The mean age of the respondents was 74 years.

Research Question: Is there an association between early childhood oral health practices and current oral health practices (oral hygiene measures)? See Figure 1 and Table 1.

When interviewed about mouth care performed as a child, the majority of respondents (n=86; 96%) brushed their teeth and seventy-eight of those (91%) reported twice a day.

Over half of individuals surveyed (n=54; 60%) reported their parents enforced brushing their teeth. See Figure 1.

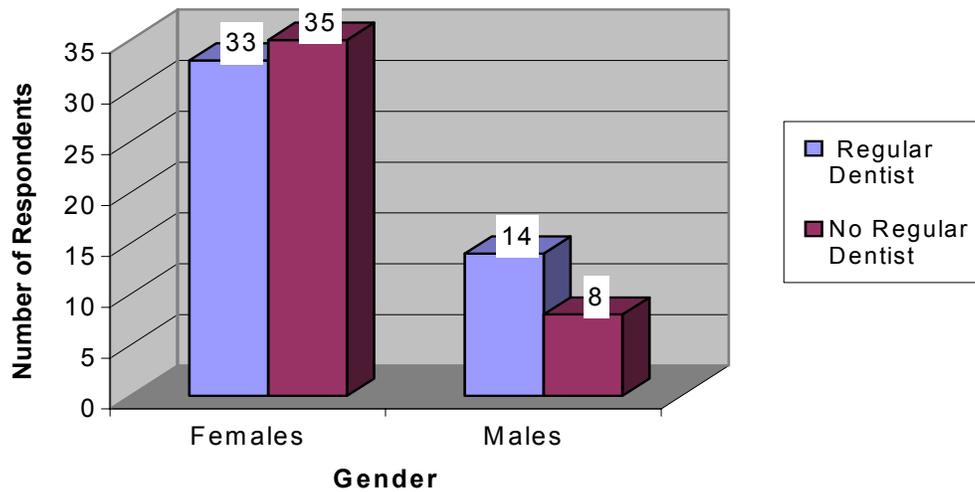


Figure 1. Did Parents Enforce Brushing Their Teeth? (N=90)

Table 1 summarizes oral care practices of 90 participants as children and as adults. Ninety-six percent (n=86) of those interviewed used only a toothbrush when performing oral care as a child, as compared to 17% as an adult (n=15). Other responses regarding individual oral health practices included brushing their teeth with baking soda, charcoal, and bark from a tree. Adult participants used various oral hygiene adjuncts that included primarily the use of a toothbrush and mouthwash (n =55; 61%). See Table 1.

Table 1. Oral Hygiene Practices Performed as a Child and as an Adult. (N=90)

Methods	Adult	Child
Brush Only	15	86
Other: Charcoal, Tree bark, Baking soda	3	4
Brush and Floss	5	0
Brush, Floss, and Mouthwash	9	0
All	1	0
Brush and Mouthwash	55	0
Brush, Mouthwash, Other	1	0
Brush and Other	1	0

Research Question: Is there an association between early childhood oral health practices and current oral health practices (regularity of dental visits)?

When questioned about the frequency of dental visits as a child, over half of the respondents (n=58; 66%) never went to the dentist. Thirteen of the individuals (15%) went every two to five years to the dentist office. Twelve of the respondents (14%) went to the dentist once a year. Two of the individuals cannot remember, while only three visited the dentist every six months as a child.

Twenty individuals (41%) reported visiting the dentist in the last six months. Six (12%) went within the last year. Seventeen individuals (35%) had been to the dentist within the last two to five years. Five (10%) had not been to the dentist in five years or more and one person could not remember. There was no association between early childhood oral health practices and current health practices regarding regularity of dental visits. [See Figure 2.](#)

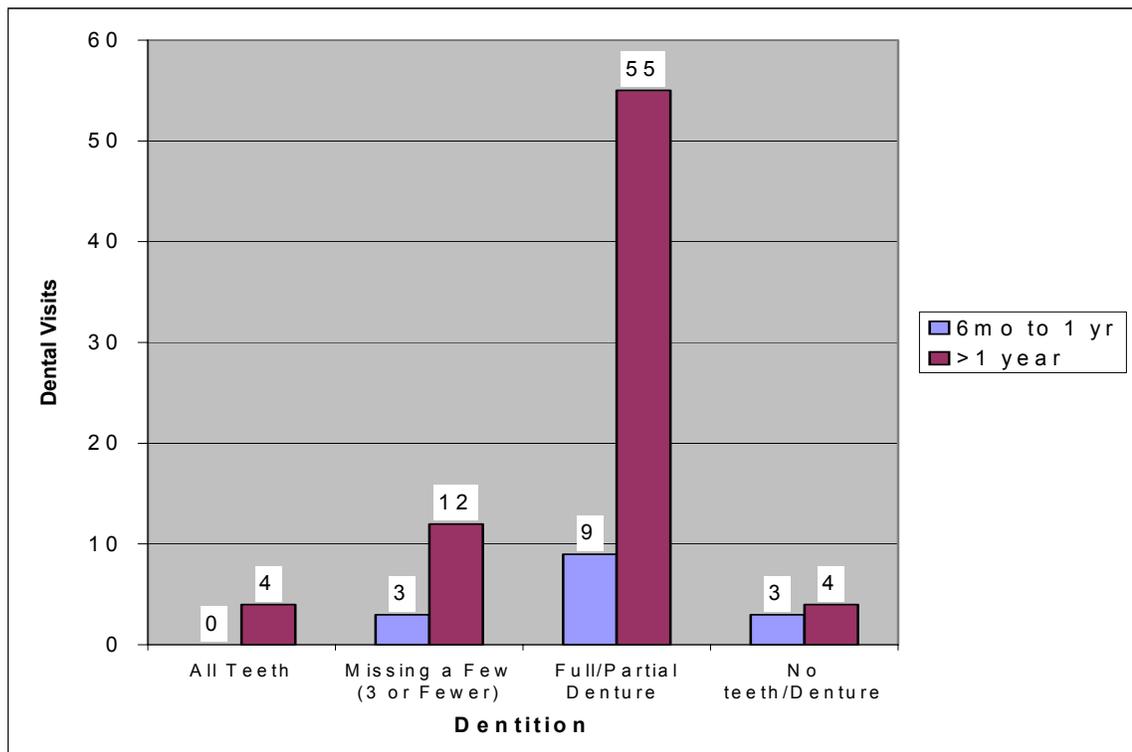


Figure 2. Frequency of Dental Visits as a Child and as an Adult. (N=88: N=49)

Research Question: Did parents of individuals surveyed perceive the importance of oral health differently for themselves than for their children? Did individuals surveyed perceive the importance of oral health differently for themselves than their children?

Figure 3 reveals there is a significant difference ($p \leq .05$) between the level of importance of the respondents' viewpoint on dental health as compared to the respondents' perception of their parents' viewpoint concerning their own dental health and their child's. Although respondents perceived that their parents viewed dental health as having average to no importance ($n=56$; 62%), there appeared to be an equal

relationship between how parents perceived their own dental health and that which was portrayed to their child. Interestingly, as respondents matured, they identified the importance of dental health as more valuable (n=90; 100%). See Figure 3.

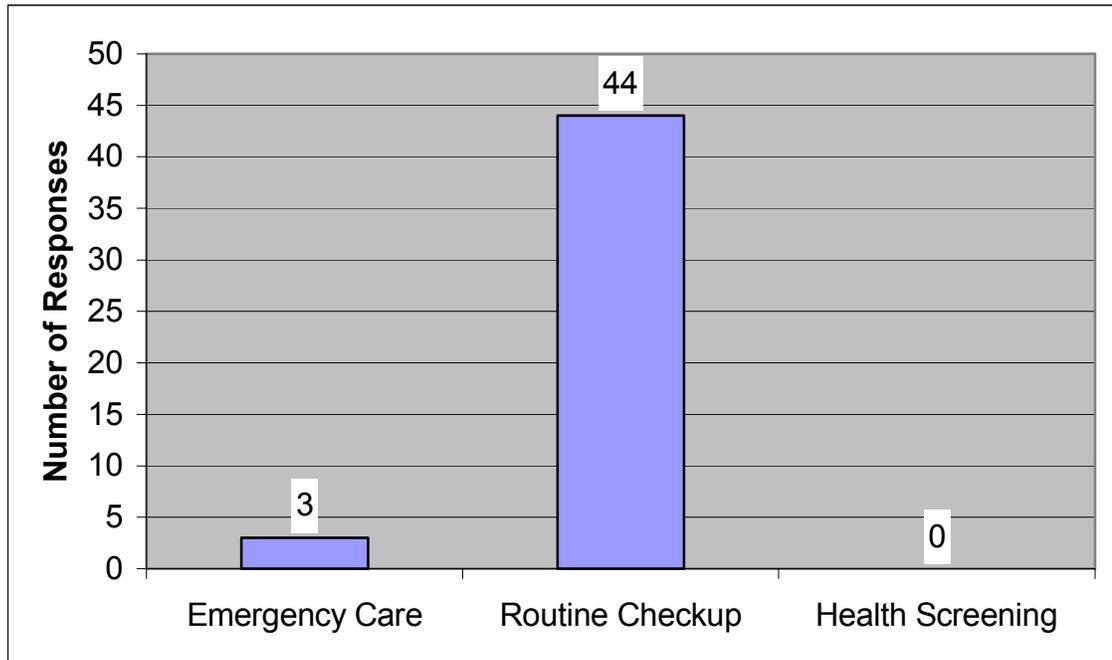


Figure 3. Importance of Dental Health. (N=90)

Research Question: What is the relationship between sucrose intake and caries experience?

When asked if sweets were a predominant part of their diet, thirty-seven (41%) reported yes. Eleven individuals (30%) had sweets everyday. Another eleven individuals had sweets one to two times a week. Twelve (32%) reported having sweets three to four times a week. Three respondents only had sweets on special occasions.

Twelve participants (34%) who had sweets regularly as a child had fewer than three caries. Twenty-three participants (66%) who had sweets regularly as a child had greater than four caries. Twenty-nine participants (58%) who did not have sweets

regularly as a child had fewer than three caries. Twenty-one participants (42%) who did not have sweets as a child had greater than four caries. There was a significant difference between sucrose intake and caries experience. $P < .05$. See Figure 4.

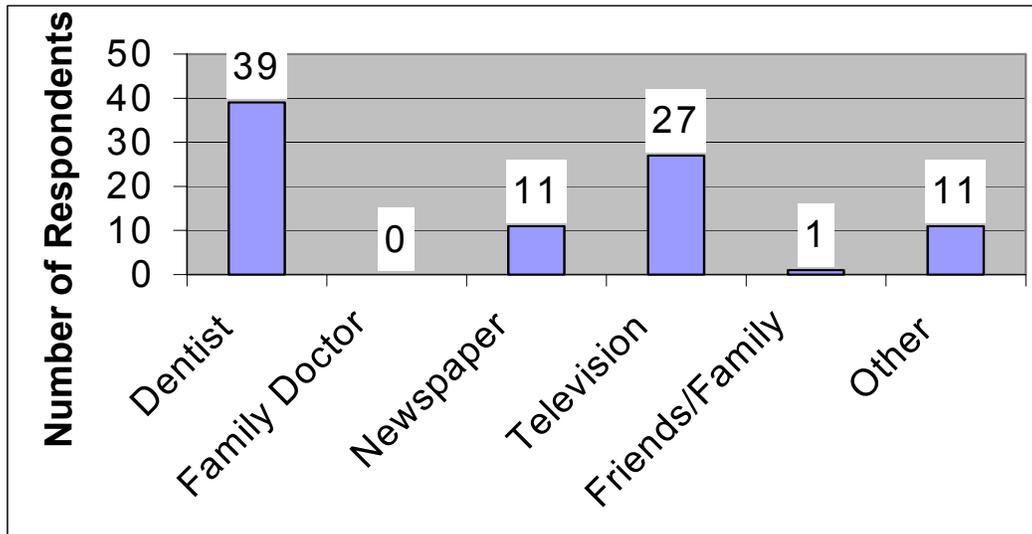


Figure 4. Sucrose Intake and Caries Experience. (Primary N=85, Permanent N=89)

Research Question: What is the relationship between visits to the dentist and caries experience?

Eight participants (20%) who had fewer than three caries in their primary teeth visited the dentist with regularity as a child. Seven participants (16%) who had greater than four caries in their primary teeth visited the dentist with regularity as a child. There is no significant difference between the number of caries in the primary dentition and visits to the dentist as a child.

Fourteen participants (n=27; 52%) who had fewer than three caries in their primary teeth visit the dentist with regularity as an adult. Ten participants (n=19; 53%) who had greater than four caries in their primary teeth visit the dentist with regularity as

an adult. There was no significant difference between the number of caries in the primary dentition and visits to the dentist as an adult.

Four participants (n=12; 33%) who had fewer than three caries in their permanent teeth visited the dentist with regularity as a child. Eleven participants (n=75; 15%) who had greater than four caries in their permanent teeth visited the dentist with regularity as a child. There was no significant difference between the number of caries in the permanent dentition and visits to the dentist as a child.

Three participants (n=7; 43%) who had fewer than three cavities in their permanent teeth visit the dentist with regularity as an adult. Twenty-three participants (n=41; 56%) who had greater than four caries in their permanent teeth visit the dentist with regularity as an adult. There was no significant difference between the number of caries in the permanent dentition and visits to the dentist as an adult. **See Figure 5.**

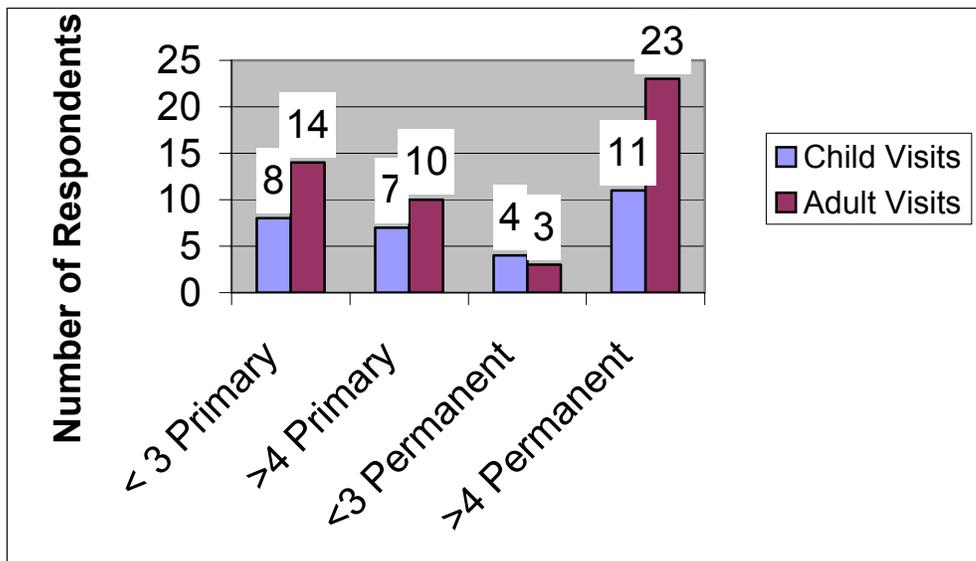


Figure 5. Relationship Between Dental Visits and Caries Experience. (Primary caries experience and childhood visits N=83; Primary caries experience and adult visits N=48; Permanent caries experience and childhood visits N=87; and Permanent caries experience and adult visits N=46)

Research Question: What is the relationship between type of infant feeding and caries experience?

Thirteen of individuals surveyed (14%) reported they were bottle-fed. The majority of respondents (76%) were breast-fed and nine of the individuals (10%) did not know.

Five participants (n=13; 45.45%) who were bottle-fed had fewer than three cavities. Thirty participants (n=68; 46.10%) who were not bottle-fed had fewer than three cavities. When type of feeding was compared with caries experience, there was no significant difference was found between bottle-feeding and caries experience. See

Figure 6.

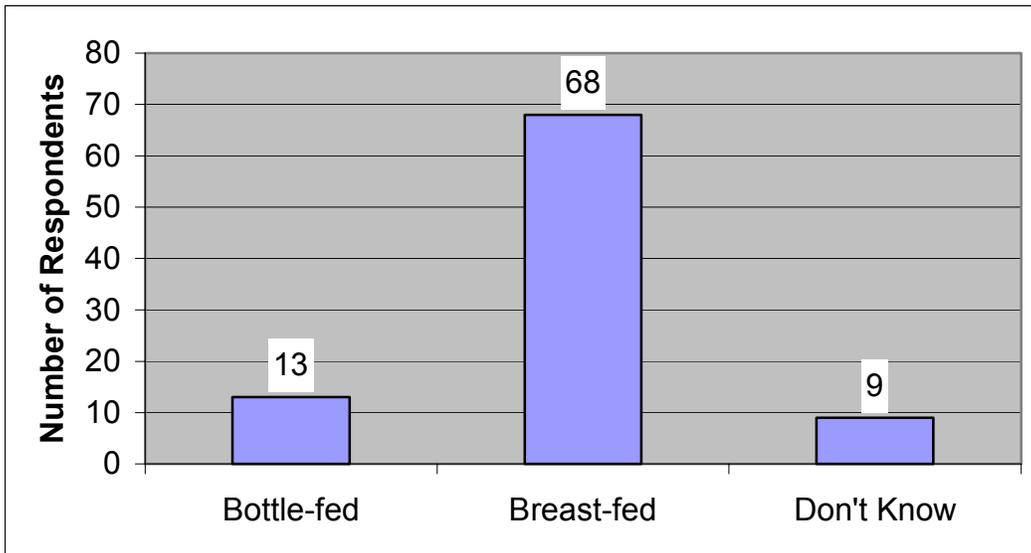


Figure 6. Methods By Which Children Were Fed. (N=90)

Research Question: Does the number of caries experienced in primary teeth correlate with the number of caries in the permanent teeth?

When interviewed on the number of cavities in the primary dentition, forty-one people (48%) reported having fewer than three cavities and more than half (n=44; 52%) reported greater than four cavities. Twelve individuals (14%) had less than three cavities in their permanent dentition, while the majority of individuals (n=77; 86%) had greater than four.

Nine participants (n=41; 22%) had fewer than three caries as a child and fewer than three caries as an adult. Two participants (n=44; 5%) had greater than four caries as a child and fewer than three caries as an adult. There was a correlation between the number of caries as a child and as an adult. **P < .05. See Figure 7.**

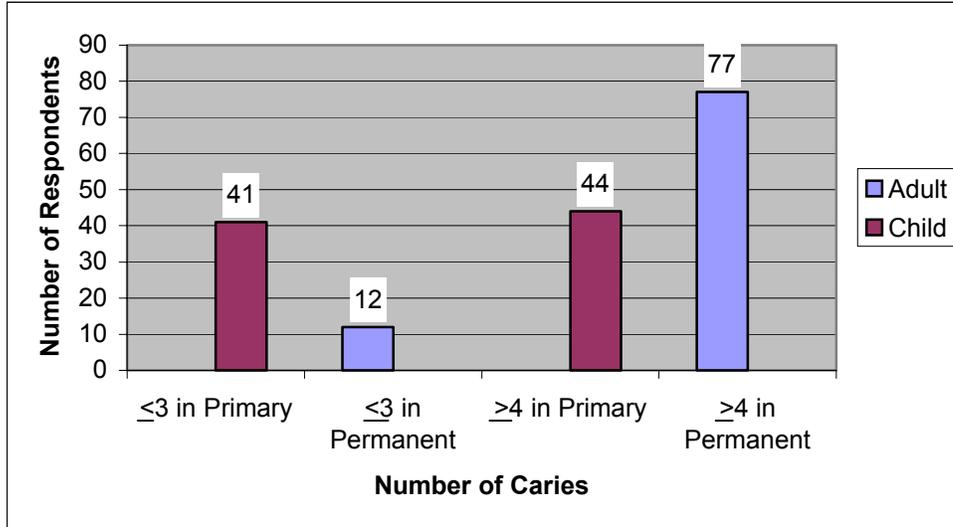


Figure 7. Dental Caries as a Child and as an Adult. (Child N=85, Adult N=89)

Research Question: Is there an association between early childhood oral health practices and current number of teeth in dentition?

Only four (5%) did not brush their teeth as a child in a conventional manner (toothbrush and dentrifice). It is difficult to compare the non-brushing group with the brushing group. There was not an association between early childhood oral health practices and current number of teeth in dentition. In the event that the participant checked more than one response, the interviewer chose to categorize their response under one. **See Figure 8.**

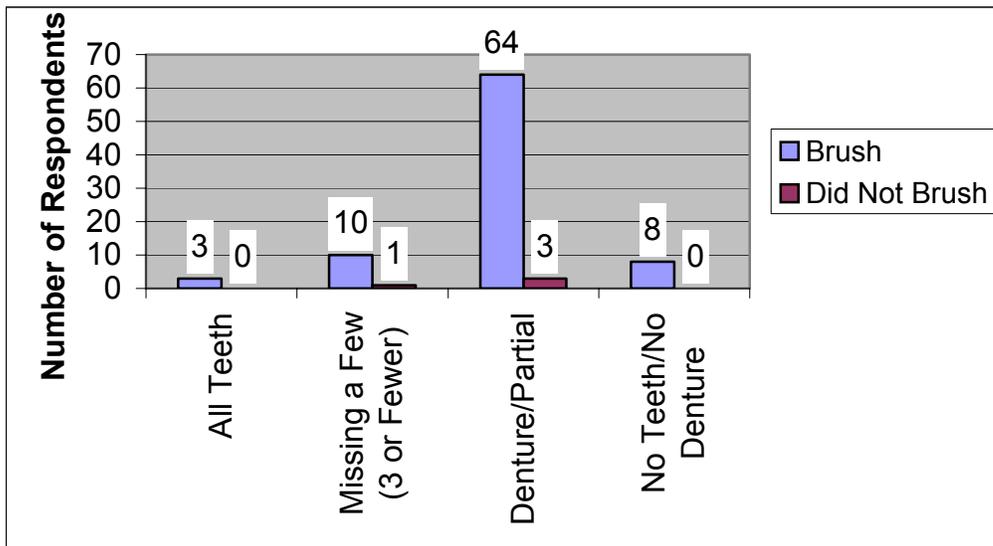


Figure 8. Childhood Oral Practices and Number of Teeth in Dentition. (N=89)

Research Question: Is there a difference in reason for not seeking dental care in this population as a child and as adults?

When asked why individuals did not frequent the dentist as a child, thirty (41%) reported they could not afford dental care. Twenty-three respondents (31%) reported “other” as a response. Additional responses included: ‘went only when needed’, ‘was not

important unless it was an emergency’, or ‘did not need to go’. The rest of the responses only had ten or less individuals for each category.

When asked why individuals did not frequent the dentist as an adult, thirty-four of the respondents (76%) reported they do not need a dentist. Eight of the individuals (18%) reported that cost was the main reason they do not visit the dentist. Only two individuals were afraid of the dentist and only one individual could not find a dentist. Table 2 illustrates the reasons the respondents did not go to the dentist both as a child and as an adult. [See Table 2.](#)

Table 2. Reasons For Not Seeking Dental Care. (Adult N=45, Child N=74)

Reasons	Adult	Child
Cost	8	8
Transportation	0	34
Afraid of Dentist	2	2
No Dentist	1	3
Do Not Know	34	4
Other	0	23

Research Question: Is there a difference between gender and regularity of dental visits?

When individuals were interviewed about routine dental visits, twenty females (56%) and six males (46%) reported they visited the dentist in the past year. There was no significant difference between gender and regularity of dental visits. [See Figure 9.](#)

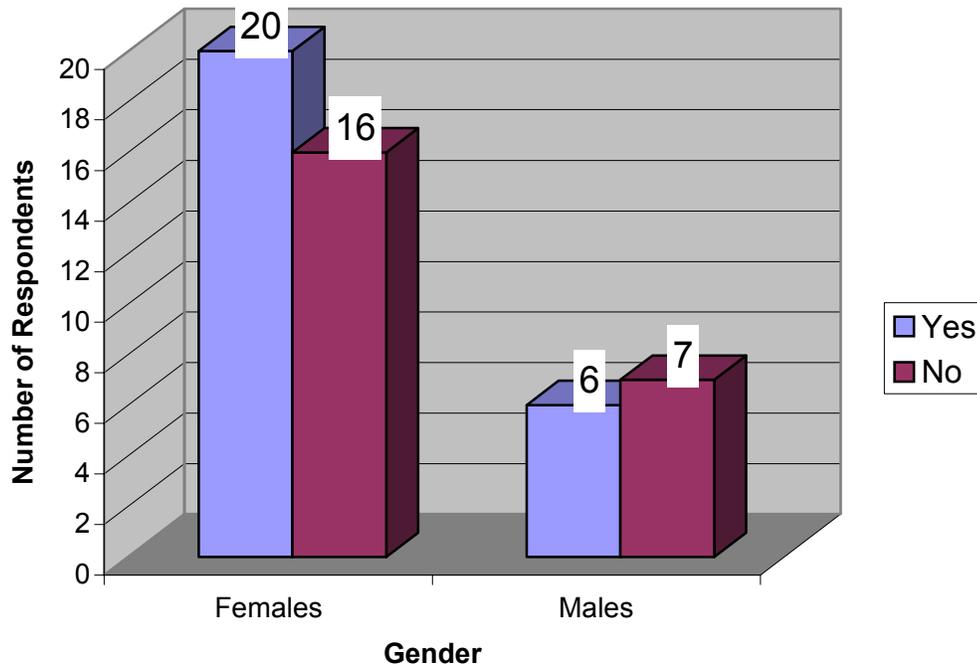


Figure 9. Gender and Regularity of Dental Visits. (Female N=36, Male N=13)

Research Question: Is there a difference between marital status and regularity of dental visits?

Out of the eighty-six individuals surveyed, twenty-five (n=35; 71%) were married and had a regular dentist; while only nineteen non-married individuals (n=19; 37%) had a regular dentist. There was a significant difference between marital status and regularity of dental visits. **P < .05. See Figure 10.**

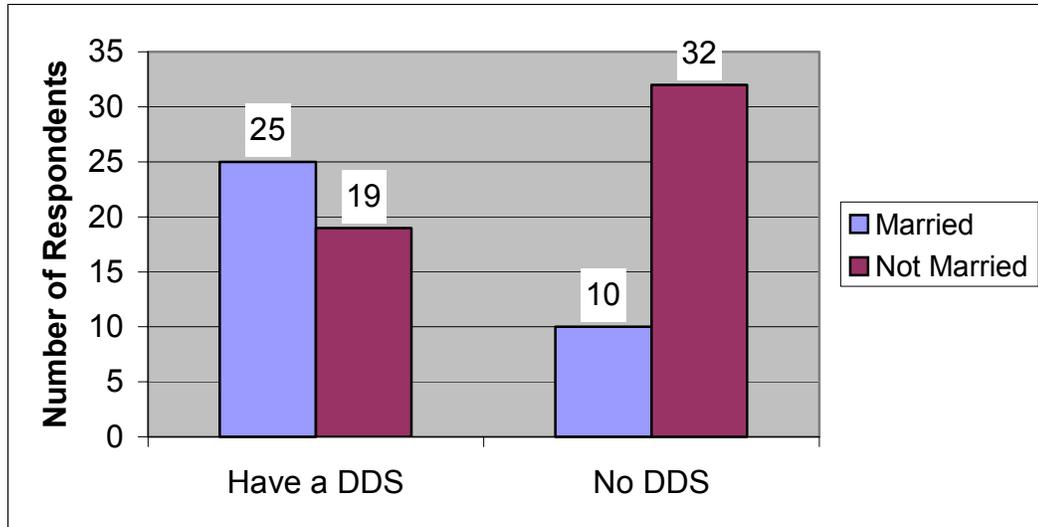


Figure 10. Marital Status and Having a Regular Dentist. (N=86)

Research Question: Is there a difference between education level and regularity of dental visits?

When the level of education was compared to the regularity of dental visits, eighteen individuals (n=34; 52.94%) with a high school education reported routine care. Seven individuals (n=15; 46.67%) with a college education and one postgraduate reported regular dental visits. There was no significant difference between educational level and regularity of dental visits. [See Figure 11.](#)

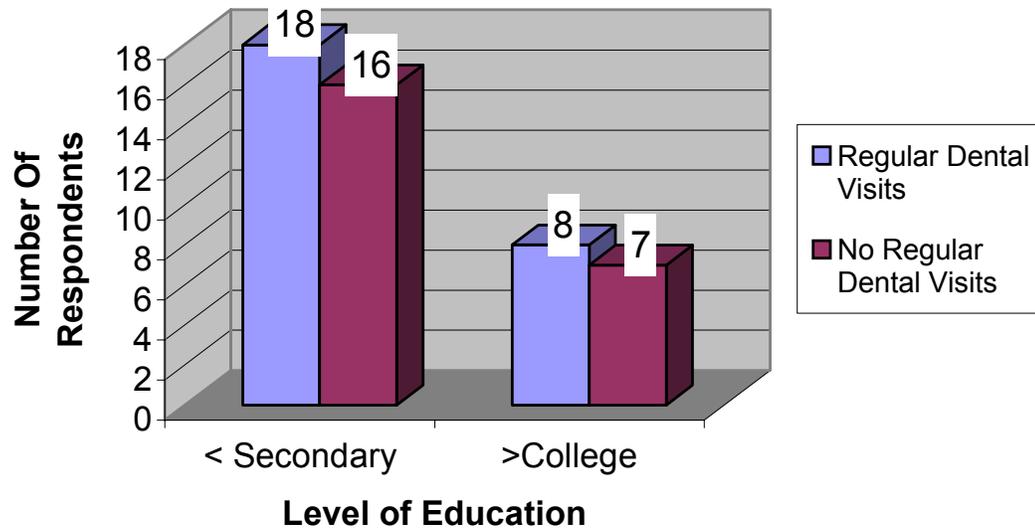


Figure 11. Educational Level and Regularity of Dental Visits. (N=49)

Research Question: Does the general health status of the individual have any effect on their oral health status?

When interviewed on various conditions, twenty-nine individuals (32%) reported they had xerostomia (dry mouth); nineteen (21%) were on a special diet; and fifteen (17%) used alcohol or tobacco. The majority of individuals (n=60; 67%) have not had recent dental care within the year. Forty-one individuals (46%) had dentures six years or older; nine (10%) reported sores or discomfort in their mouth from the dentures; and one person had lesions, sores, or lumps in their mouth. Eight of the individuals (9%) had difficulty eating or chewing and eight had tooth or mouth pain. Three people had thick or absent saliva. There were no participants on oxygen. Over half (53%) took multiple medications and four people had a chronic or terminal illness.

There was not a significant difference between lack of recent dental care and tooth or mouth pain. There was not a significant difference between not having recent dental care and dentures that cause sores or discomfort in the mouth. Also, there was not a significant difference between not having recent dental care and lesions, sores, or lumps in the mouth. There was not a significant difference between not having any recent dental care and eating or chewing dental care. There was a significant difference between individuals with dry mouth and multiple medications. $P < .05$. See Figure 12.

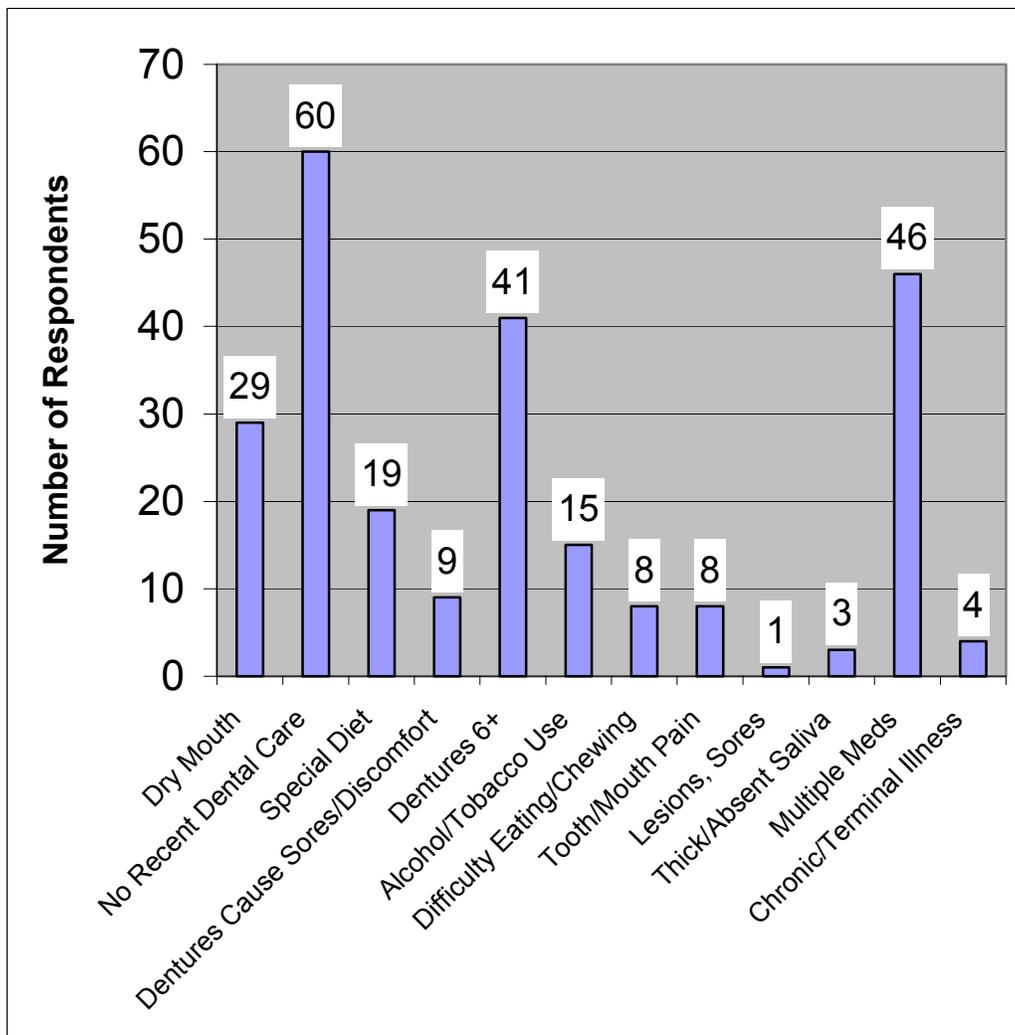


Figure 12. Conditions Experienced by Respondents. (N=90)

The following summation includes information taken from the survey which goes beyond the scope of the research questions. This information contributes to the results found.

When asked why individuals thought they had cavities in their primary teeth, over half of the individuals (62%) reported they did not go to the dentist as a child. Twenty-one of the individuals (24%) did not know why they had cavities as a child. The other four categories had individuals of six or less responding. See Figure 13.

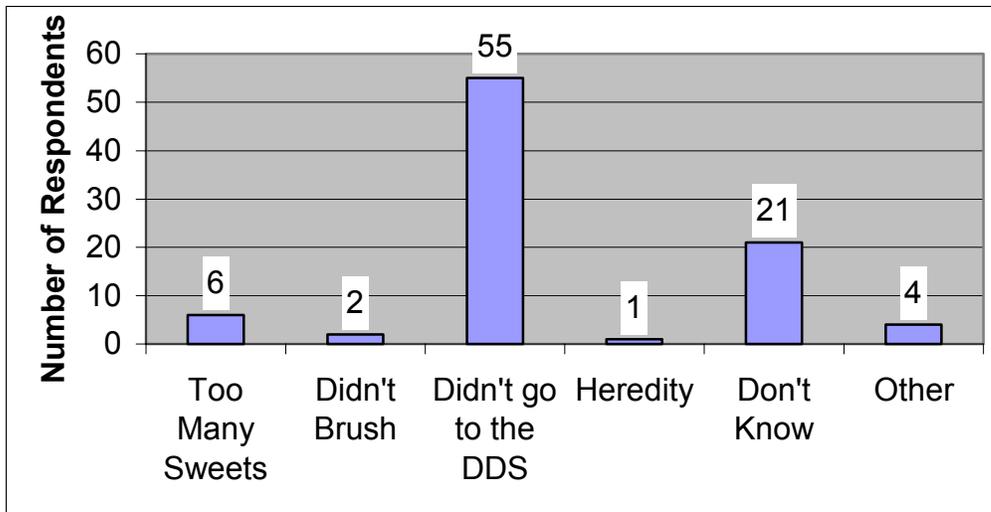


Figure 13. Reasons for Cavities as a Child. (N=74)

Sixteen individuals (18%) stated their parents made sure they visited the dentist as a child. Seventy-four of the individuals (82%) stated that their parents did not make sure they went to the dentist as a child. See Figure 14.

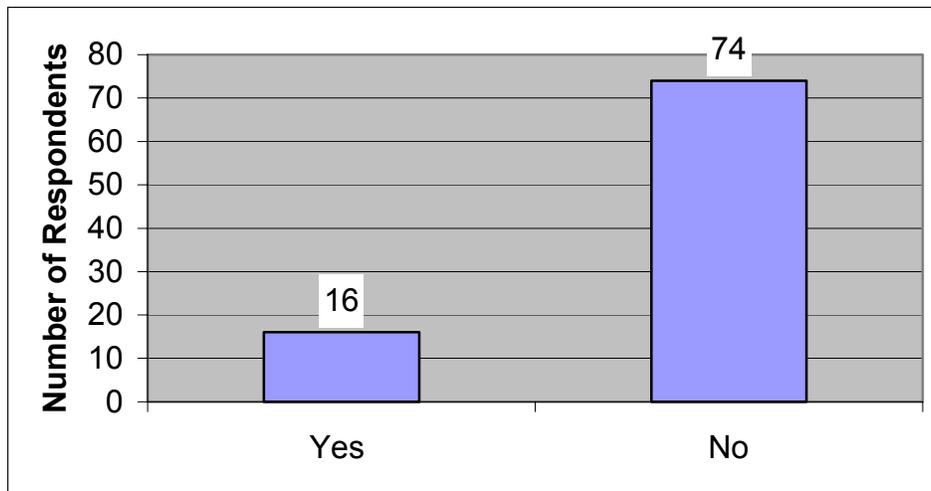


Figure 14. Did Your Parents Make Sure You Went to the Dentist as a Child? (N=90)

When asked if their parents lost their teeth before age thirty-five, seven of the individuals answered yes. The majority of individuals (n=64; 71%) reported no and nineteen individuals (21%) do not know. See Figure 15.

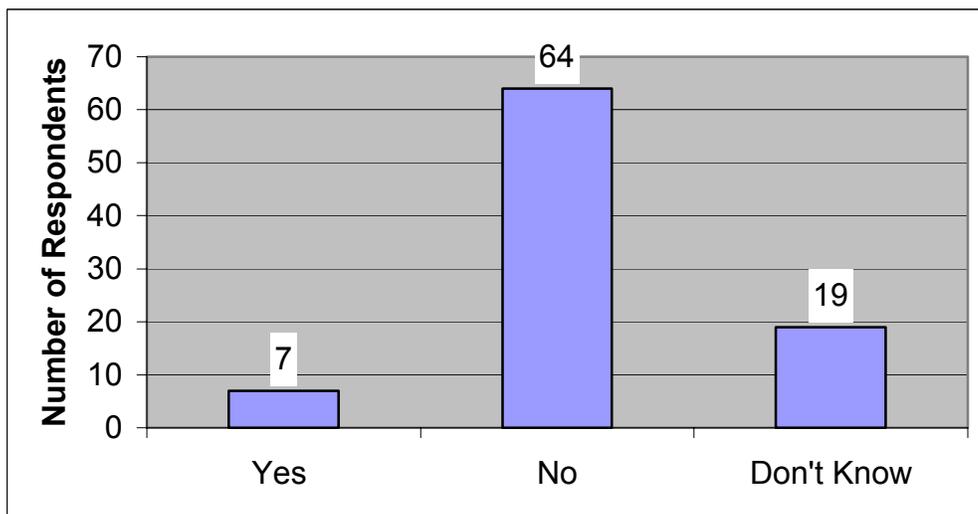


Figure 15. Did Your Parents Lose Their Teeth Before Age 35? (N=90)

A person's diet plays an important role in their oral health status. In reviewing the respondents' diet as a child most reported eating from the four basic food groups (fruits, vegetables, meats, and dairy).

Individuals were asked to rate themselves on their current oral health status. Over half of individuals surveyed (n=55; 61%) felt they did not need any dental services. Twenty (22%) of the respondents felt they need services now. The rest of the categories ranged from two to ten individuals. See Figure 16.

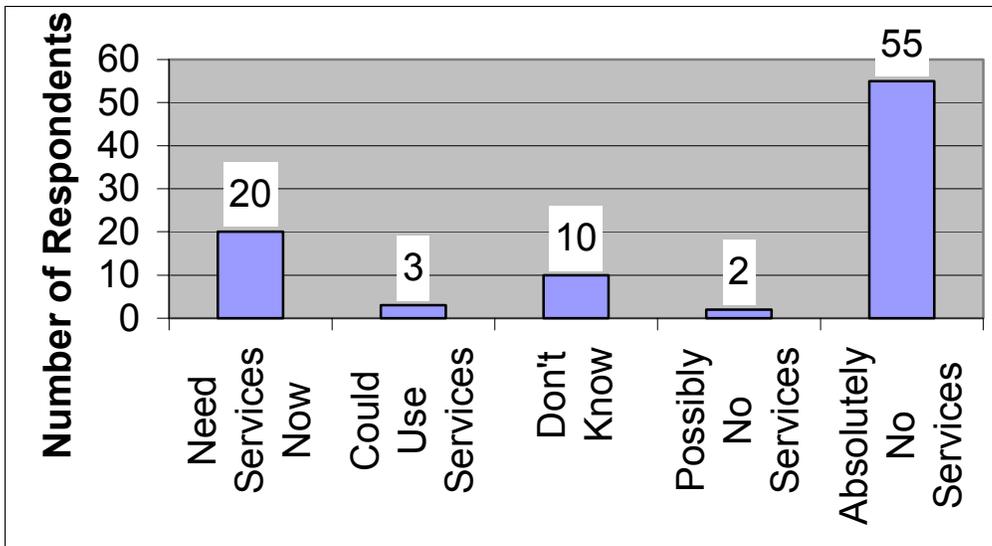


Figure 16. Current Oral Health Status. (N=90)

When individuals were asked about their dentition, three had all of their own teeth, eleven (13%) were missing a few, more than three-fourths (n=67; 76%) wore full or partial dentures and seven individuals had neither teeth nor dentures. See Figure 17.

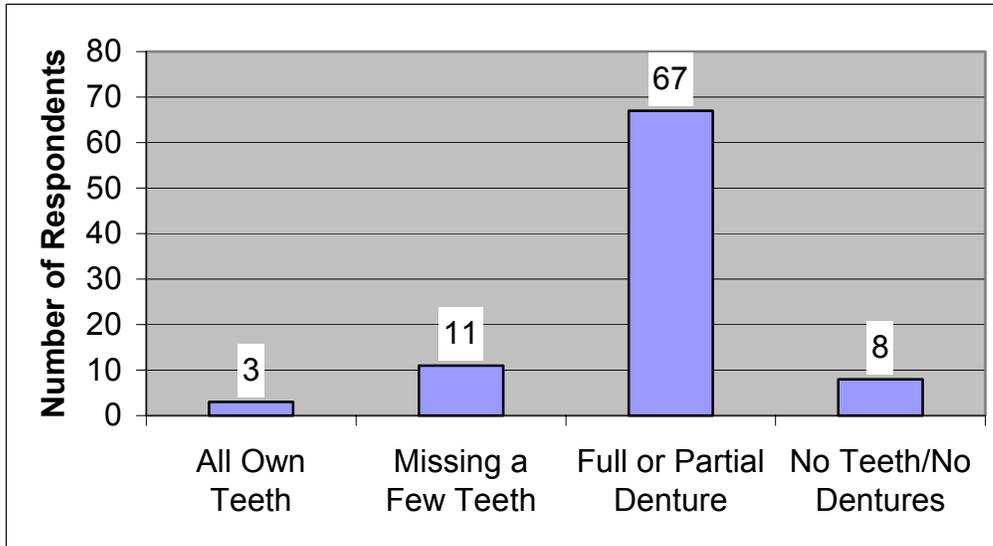


Figure 17. Current Dental Status. (N=89)

Figure 18 shows a summary of the level of education compared with status of dentition. The majority of persons with secondary education or higher had full/partial dentures.

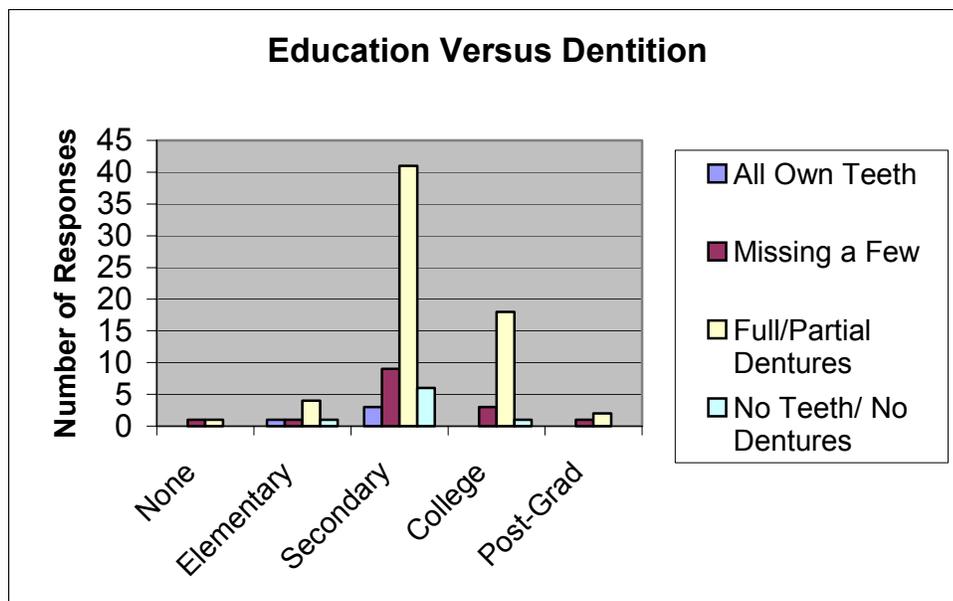


Figure 18. Educational Level and Dentition. (N=90)

When asked if individuals currently have a dentist, slightly more than half (n=46; 51%) answered yes. Forty-three individuals do not have a regular dentist and one person did not answer the question. See Figure 19.

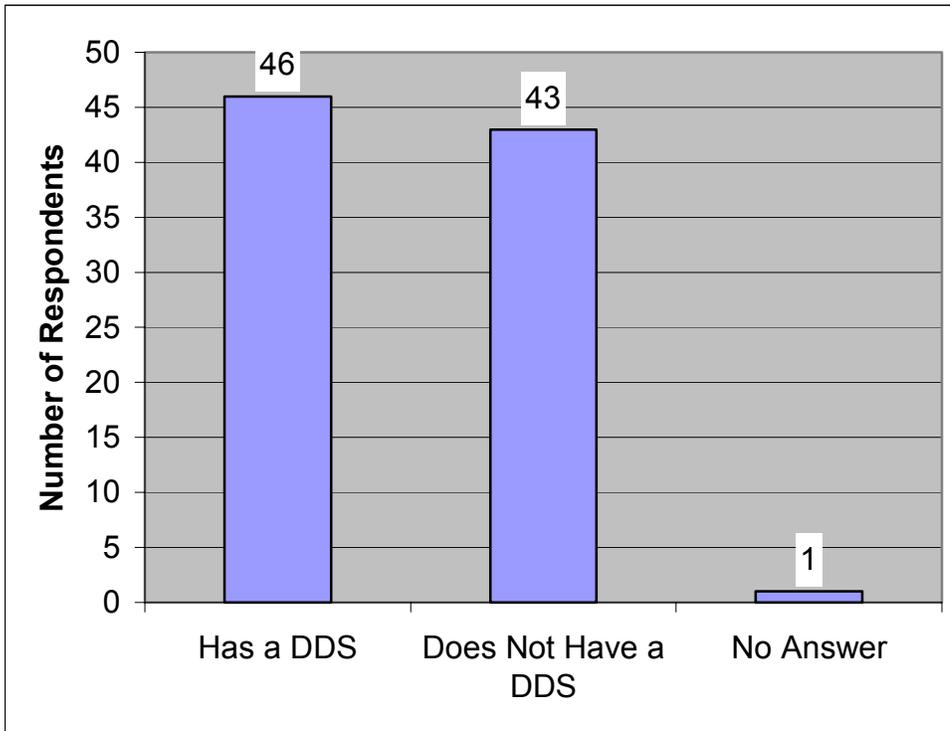


Figure 19. Do You Currently Have a Dentist? (N=90)

When gender was compared, thirty-three females (n=68; 49%) and fourteen males (n=22; 64%) had a regular dentist. See Figure 20.

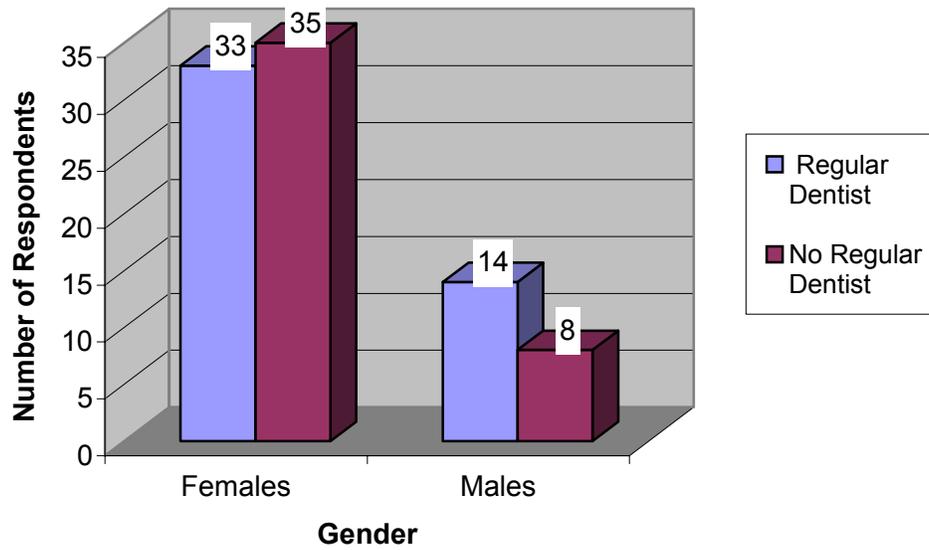


Figure 20. Gender and Having a Regular Dentist. (N=47)

Very few participants frequented the dentist. Over half of respondents wore full/partial dentures and had not been treated for over one year. Figure 21 shows a summary of dental status and frequency of visits.

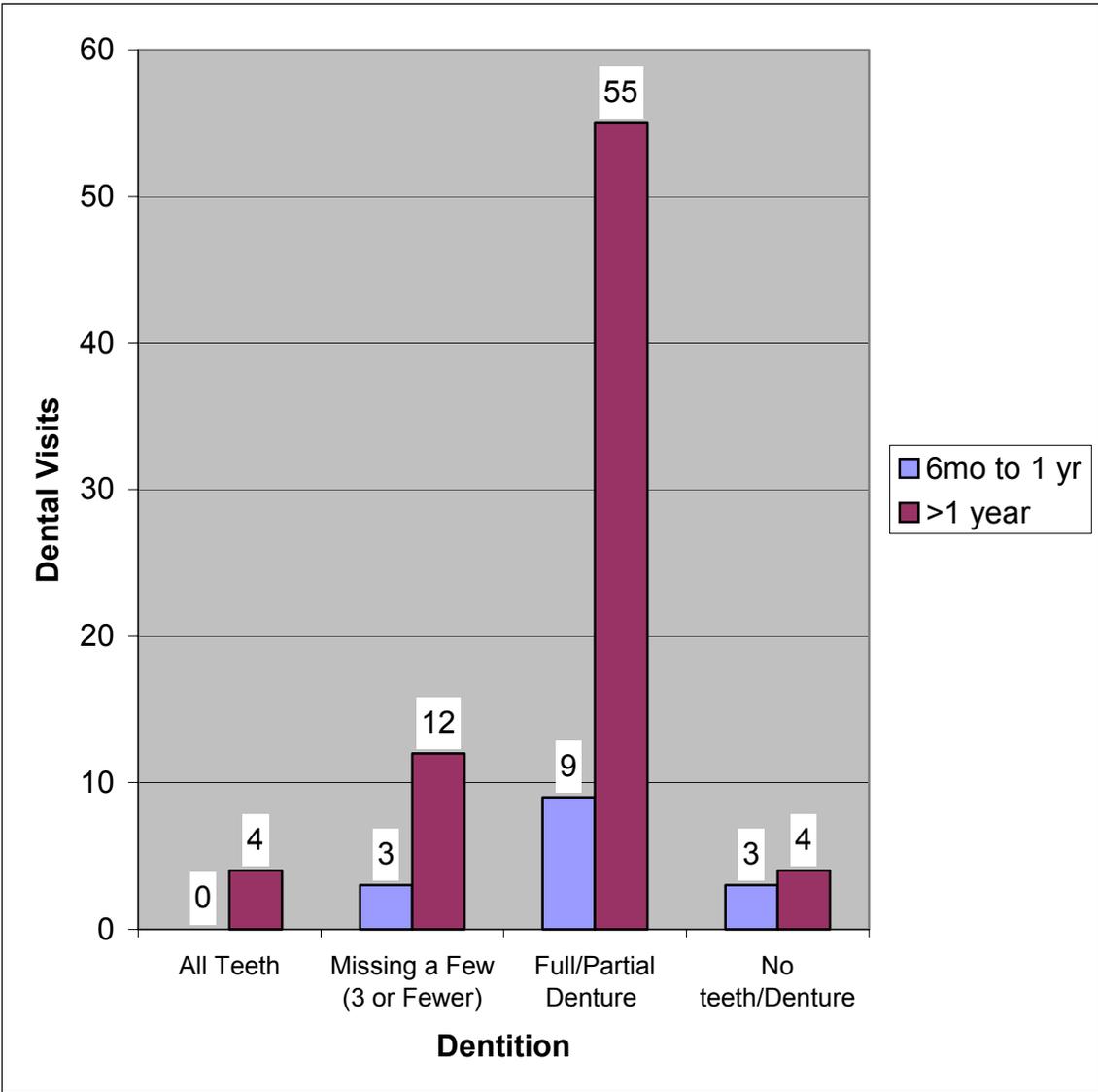


Figure 21. Dental Status and Frequency of Dental Visits. (N=90)

When individuals were asked the reason for last visiting the dentist, three reported emergency care. The majority of the individuals (n=44; 94%) visited the dentist for a routine checkup. See Figure 22.

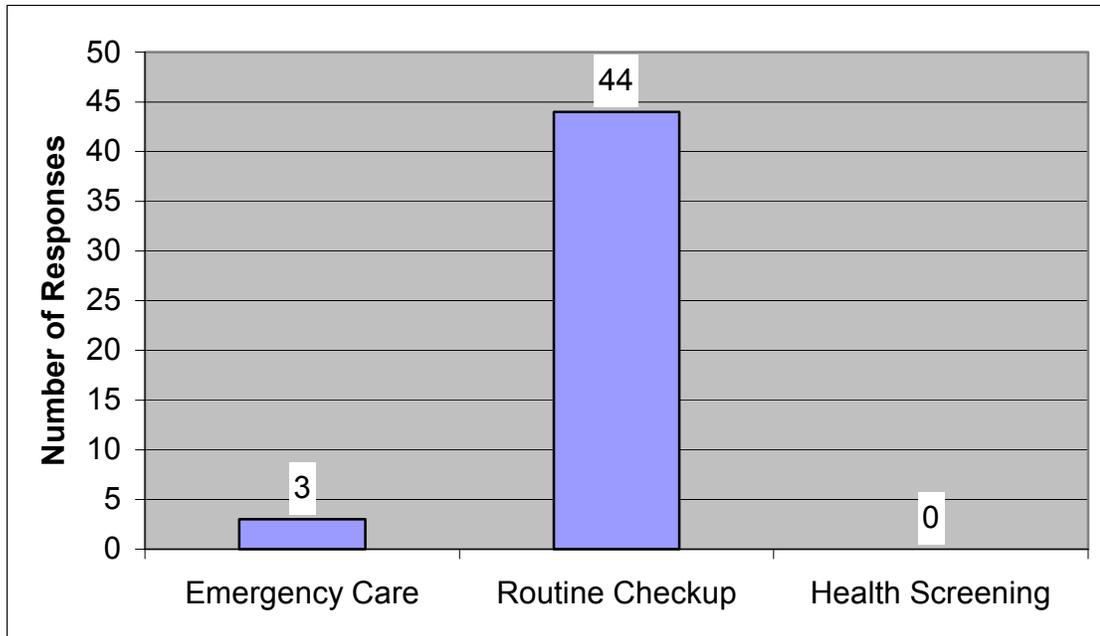


Figure 22. Reason for Visiting the Dentist at the Last Appointment (N=47)

Individuals were asked where they get information regarding dental health issues. The majority (44%) reported from their dentist. Eleven (12%) said from the newspaper, twenty-seven (30%) from television, and one person reported family and friends. Six people chose other as their answer. Other responses include “nowhere”, “senior center”, “VA”, and “prior experience.” See Figure 23.

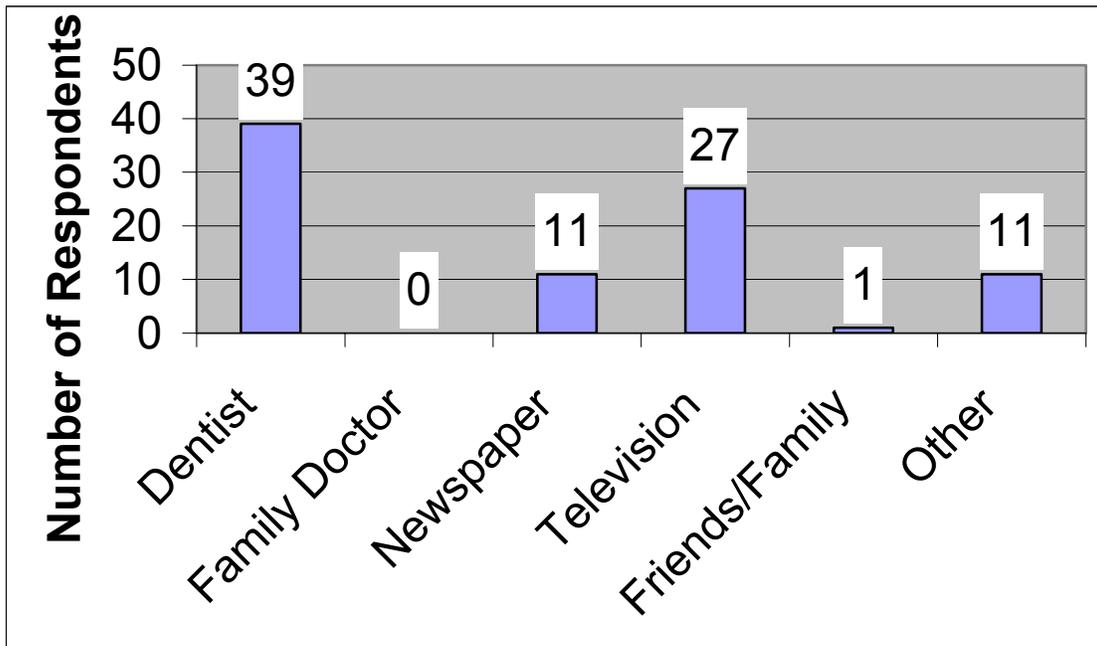


Figure 23. Sources of Dental Health Information. (N=89)

DISCUSSION

Currently, there have been no prior studies conducted to determine the relationship between childhood and adult oral health practices. The purpose of this study was to determine if a relationship existed between early childhood dental care practices/experiences and perceived oral health needs/practices of persons 60 years and older who are regular participants at three service programs in West Virginia.

One hundred percent of these individuals felt their personal dental health was important. However, according to data collected, participants felt their parents did not place an emphasis on their own personal oral health or that of their child.

A statistically significant difference was found when comparing the importance of dental health between two groups (parent and child versus respondent as an adult). Fifty-three percent of participants felt their parents perceived their child's dental health to be important; however, the parents did not provide the respondents as a child the opportunity to frequent the dental office every year as recommended. Wanting a better life for their children probably had an impact on how respondents perceived the importance of dental health as adults. In addition, recent research establishing a link between periodontal disease and systemic diseases/conditions further validates why respondents perceive the role of oral health and prevention as more important today than in the past. Exposure to the media advertising dental health from both a disease prevention and an aesthetic viewpoint further emphasizes this importance among respondents.

Another interesting finding is that even though the participants may routinely brush their teeth, 83% were currently partially or fully edentulous. The disconnect between responses about oral hygiene practices and actual oral status may be due to the Hawthorne effect. Individuals may not have been truthful about their practices because they wanted to provide the investigator with the correct answer or the answer they thought the investigator wanted to hear.

It is important to develop good habits and attitudes early in life. In the area of nutrition, Calam's study supports this concept that the lack of early intervention has a strong impact on future health practices and health status. She reported negative characteristics (poor self-esteem, perfectionism, family function, and eating attitudes) developed in the early teens result in unhealthy eating patterns in later life.²⁶

There is a plethora of research proving a relationship exists between a high sucrose diet and caries experience. This study yet again validates the fact that primary caries experience has a direct correlation with permanent caries experience. This correlation also exists in this unique study conducted with the rural elderly. In the article Sugar Shack, there is a claim that sugar causes cavities. The author states, “Guilty as charged, and the more time that passes before you brush, the greater the risk. Babies who drink juice from a bottle over a long period of time are particularly prone—as are cyclists who sip sugary sport drinks for hours at a time.”²⁹ A statistically significant difference was found between sucrose intake as a child and fewer than three caries in the primary teeth. Sixty-five percent of people who had sweets as a child had greater than or equal to four cavities in their primary teeth. Eighty-nine percent of people who had sweets as a child had greater than or equal to four cavities in their permanent teeth. In addition, it was determined that 95% of the participants had greater than or equal to four carious lesions as both a child and an adult. There is a strong, positive correlation between sucrose consumption and caries experience throughout life.

It should also be noted that persons who have a spouse tended to be under the care of a general dentist. In this study, 71% of participants who were married were included in this category. When interviewing individuals on whether or not they sought dental care, more female individuals answered affirmatively than males. There were only twenty women (56%) and six men (46%) in the study who sought regular dental care. This is not surprising since females tend to seek healthcare in general more frequently than men.²⁸

Throughout adulthood, individuals may experience various medical and dental conditions. As a person ages, they may become more dependent on the medical sciences. Research indicates multiple medications may cause various side effects. The primary side effect is xerostomia (dry mouth). Xerostomia can cause problems with talking, chewing, or swallowing as well as increased caries risk and problems with soft tissue. Also, the ability to wear dentures may decrease when a person has a dry mouth.¹ For example, medications such as antihistamines, diuretics, and antidepressants often result in xerostomia.¹² Seventy-three percent of participants in this survey indicated they experience xerostomia and take multiple medications. Other conditions that play a role in dental health include nutritional intake of the individual, presence of sores, lesions, or lumps in the oral cavity, ill-fitting prostheses, alcohol or tobacco usage, inhalation of oxygen, difficulty eating or chewing, unexplained tooth or mouth pain, thick or absent saliva, or chronic/terminal illness. Of the individuals interviewed, it appears that medications are taken for a variety of diseases which include diabetes, cardiovascular, cancer, hypertension, stroke, liver, and chronic obstructive pulmonary disease.

Recent studies have shown a correlation between periodontal disease and diabetes and cardiovascular disease. These conditions are found to be more prevalent among elderly individuals.¹ Current standards for prevention of periodontal disease involve daily brushing and flossing. The individuals surveyed felt that brushing and the use of mouthwash was an acceptable form of plaque control. However, only seven participants admitted to flossing regularly. This would suggest that education and implementation of proper flossing habits as an adolescent could help prevent oral health problems later in life. It would also suggest that use of periodontal aids should be implemented in order to

help elderly individuals with daily plaque removal. Even though individuals performed daily plaque control as a child, it is important to continue to employ effective brushing and flossing techniques in order to thoroughly remove bacterial plaque.

It has been well documented that there are many barriers to receiving optimal healthcare. The Nation's Health article reports, "More than 108 million Americans do not have dental insurance. For every adult without medical insurance, three do not have dental insurance. For every child without medical insurance, there are 2.6 without dental insurance."³⁰ In dentistry, finances are one of the major reasons for not seeking care. Individuals in this survey felt cost was the greatest barrier to care as a child because their parents could not afford to provide them with annual dental care. In addition, the majority of those surveyed stated they are not under the regular care of a dentist because they do not understand the need for it. The Nation's Health article also states, "A major barrier to good oral health is the overall lack of public understanding and awareness of the importance of the importance of oral health."³⁰ Although all individuals surveyed felt dental health was important to them now, the majority of these individuals did not have a regular dentist as a child and were edentulous presently. This would then support the need for education among children and adolescents in order to develop positive dental habits.

Other important data in this study revealed that 60% of the individuals reported their parents enforced brushing their teeth. Even though parental supervision was provided, it is still important for parents to follow through with routine dental care for themselves and their children in order to set a good example.

As mentioned earlier, childhood attitudes, values, and experiences influence later practices. Within dentistry, oral problems are the result of a cumulative effect. There was no correlation found between the number of dental caries and the regularity of dental visits. The majority of participants in this study reported their last dental visit ranged from within the last six months to five years. Most of the individuals did not go to the dentist regularly. This is not surprising since most Appalachians try to take care of health problems themselves. They go through a ten-step pattern trying to cure the problem. They practice what they learned from their mother, call their mother for advice, or use an over the counter medicine they saw on television that seems like it would work.²⁷

Interestingly, scholastic achievement did not play a role in the regularity of dental visits. Integrating oral health issues in academic settings should be considered. The importance of proper oral healthcare and accessibility of dental educational materials is readily available through multiple media sources. Dental professionals could play an important role by developing dental health programs that could be integrated within the school curriculum. This would educate children on the importance of oral hygiene as a lifestyle practice. Dentists and dental hygienists can also help educate adults through staff in-service programs, informative brochures, and educational displays. This would also suggest the need for more effective marketing tools employed to reach every facet of the population. Forty-four percent of individuals surveyed received the majority of their dental health education from their dentist, while thirty percent use television as their primary source of information.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

SUMMARY

The purpose of this study was to determine if a relationship existed between early childhood dental care practices/experiences and perceived oral health needs/practices of persons 60 years and older who are regular participants of three service programs. They were CCCOA, Minnora, and Bramblewood. Out of the fifteen research questions to be answered, nine questions support the study while six do not. Although it can be partially concluded on the regularity of dental visits and perceptions of individuals, we cannot unconditionally say that there is a direct relationship between early childhood dental care practices/experiences and perceived oral health needs/practices.

The sample population of this study experienced many barriers to proper healthcare. Dental health professionals should continue to play a role in reducing the burden of costs and attempt to eliminate transportation issues and special sensory needs of the elderly. Methods by which this may be accomplished include lobbying for reduced cab fares for senior centers, support for local senior centers and volunteer groups which work for the elderly, and petition transit authorities to provide service to elderly homes and retirement communities. In addition, dental health professionals should present

educational materials in ways that can be seen and heard by each individual regardless of age or sensory deficits.

CONCLUSIONS

Six conclusions can be drawn from this research study:

- The importance of the respondent's oral health was more valued than how they perceived their parents felt about oral health.
- Although all individuals surveyed perceived the importance for dental health, this does not always translate into positive oral health practices. Over half of these individuals did not have a dentist of record and were partially or fully currently edentulous.
- There is a direct correlation in primary caries experience as a child and permanent caries experience as an adult in this population.
- Since periodontal disease has an effect on the overall health of an individual, it is important to teach both children and adults about the importance of effective plaque control.
- Dental health professionals should play an active role in the educational process by providing greater access to care and delivery of educational instruction and materials early in life.
- In this study, married individuals reported more frequent visits to the dentist than non-married individuals.

RECOMMENDATIONS FOR FUTURE RESEARCH

In an attempt to simplify or lend importance to future studies, it is recommended to employ the following:

- Conduct a needs assessment of other counties in West Virginia and develop a statewide dental health education/intervention program that includes components for children and adults.
- Develop a comparison study of an urban population.
- Assess an adult population to determine if their dental experiences affect the management of their children's dental care.

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APPENDIX A

IRB APPROVAL

7/16/01
7/20/01

DO NOT WRITE IN THIS SPACE
H.S. # 15199

Institutional Review Board Protocol Statement

1. Title of study: AGING WELL IN CALHOUN COUNTY DENTAL ASSESSMENT PROJECT

2. Investigators (list all investigators, principal investigator first; attach additional sheets if necessary):

Name (type or print)	Signature	Dept./College	PO Box	Tel. No.
RICK BRIGGS		COA/SOM	9127	3-2081
CHRISTINA DEBIASE		DENTAL HYG/DENTISTRY	9425	3-3417
ERDOGAN GUNEL		BIOSTATS/COMM MED	6330	3-1095
JOHNNA GUZZI		DENTAL HYG/DENTISTRY	9425	3-3417
SUZANNE LEIZEAR		COA/SOM	9127	3-2081

Fax No. 3-2700

3. Review category requested: Quorum Expedited (specify categories, see pp. 7-9 of guidelines): 1, 2

4. Estimated period of human subject involvement: Starting date: AUG 22, 2001 Ending date: OCT. 10, 2001

5. Reason for conducting research: Professional Dissertation Thesis Class Assignment
Faculty Advisor (name, PO box, phone): _____

6. Investigators at institutions other than WVU or units of the Health Sciences Center:

Institutional Affiliation	Name	Title	Role in Study
LYNN GILBERT, DDS, MPH GENERAL DENTAL PRACTITIONER	LYNN GILBERT	DENTIST	CONDUCT ORAL SCREENINGS DATA COLLECTION/ANALYSIS

7. Persons other than the investigators who will have contact with subjects:

Name	Title	Degree(s)

8. Persons other than the investigators who will obtain informed consent:

Name	Title	Degree(s)

9. Persons other than the investigators who will have contact with data:

Name	Title	Degree(s)

10. Location for interaction with subjects (provide name of institution, address, and brief description):
CALHOUN COUNTY COMMITTEE ON AGING, GRANTSVILLE, WV. SENIOR CENTER PROVIDING A VARIETY OF SOCIAL, HEALTH, NUTRITION AND SUPPORT SERVICES TO CALHOUN COUNTY RESIDENTS AGED 60+

11. Indicate with a which of the following special populations will be targeted in the research:

- Patients
- Children (under 18)
- Intellectually or emotionally impaired subjects
- Elderly subjects (over 65)
- Pregnant subjects or fetuses
- Prisoners, parolees, incarcerated subjects
- Illiterate subjects
- Subjects whose primary language is not English
- Students or trainees
- Employees of institutions associated with the study
- Employees or subordinates of investigators

12. Indicate by a if any of the following items are involved:

- Data collected from data banks, archives, medical records
- Data to be stored in data banks, archives, medical records
- Filming, videotaping, or voice-recording of subjects
- Questionnaires
- Ionizing radiation, either diagnostic or therapeutic
- Pathological or diagnostic tissue or fluids
- Placental tissue
- Fetal tissue
- Approved drug or device in "non-FDA-approved" application
- Placebo(s)
- Deception of subjects

13. Method of obtaining informed consent:

- written consent form (include a copy in Section C) control group consent
- waiver or alteration of consent process (explain in Section C)

14. Method of obtaining assent from children (age 7-18) or subjects unable to sign legally valid consent:

- written assent form (include a copy in Section C) control group assent
- no assent, under age 7 or severely impaired (explain in Section C)
- waiver or alteration of assent process (explain in Section C)

15. Will investigational drugs or devices be used?

- yes no If yes: IND# _____ or IDE# _____
- Manufacturer: _____

16. Source of funding support: SSJCF/BENEDUM Funding status: Pending Active (OSP # N/A)

Anticipated funding period: 11/01/98-12/31/01 Application deadline: _____

17. Will there be any financial remuneration, reward, reimbursement of expenses or other inducements to participate?

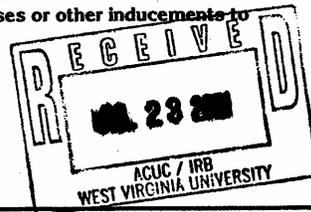
- yes no (If yes, explain in item 3 of Discussion.)

18. Will there be any potential added cost to subjects?

- yes no (If yes, explain in item 4 of Discussion.)

19. Will you use a recruitment ad?

- yes no (If yes, attach a copy.)



20. Signatures: (The Board will not review the protocol without these signatures. By signing, department chairs acknowledge approval of this study on the basis of scientific merit and compliance with applicable professional standards; deans and other administrators signify their approval of the use of resources and faculty and student effort on the study. Multi-unit protocols require the signatures of each chair and dean.)

	Name (type or print)	Title	Signature	Date
Dean	C.R. CRAIG, PhD	Interim Assoc. De		2/23/01
Dean	JAMES J. KOELER			11-01
Dept. Chair	Alan Ducatman			7-13-01
School of Dentistry Dept. Chair				
CoA Director (Int) Hospital Admin.	Janet Williams			-13-01
Faculty Advisor				
Other	Rich Crout	Assoc. Dean Research		

APPENDIX B

INTERVIEWER AND PARTICIPANT COPY

ATTACHMENT 1

Calhoun County Dental Assessment Project Introduction (Interviewer Copy)

The following questions are part of a survey for the Calhoun County Dental Assessment Research Project at West Virginia University. This research project is being conducted to gather information about 60+ individuals' childhood dental health experiences and habits, their current dental health habits and the actual physical condition of their mouth. By answering these few questions and participating in the visual dental screening, you can help us determine some of the dental health needs in the community.

Your participation is voluntary and your answers will be kept confidential. You don't have to answer any questions you don't care to answer.

After answering these questions, you will be asked to participate in a free, voluntary, dental screening by Dr. Lynn Gilbert, DDS, MPH. Dr. Gilbert will look in your mouth, using a light, a tongue blade depressor, and sterile gauze. All instruments will be sterile and disposable. No x-rays will be taken, although if x-rays and/or other further treatment are indicated, Dr. Gilbert will tell you this and will give you a list of licensed dentists within a reasonable traveling distance. This screening will also be confidential. In order to maintain confidentiality, a number will be assigned to locate and compare your results.

If you have any questions about this study, you may call Dr. Rick Briggs at 293-2081 or Dr. Christina DeBiase, at 293-3417.

Would you like to participate?

Attachment 1
Calhoun County Dental Assessment Project Introduction
(Participant Copy)

Dear Participant:

You have been invited to participate in the Calhoun County Dental Assessment Project at West Virginia University. The purpose of this study is to learn about the oral health history and conditions of persons who are 60+. This study consists of 2 parts, a face-to-face interview, where you will be asked to answer questions about your childhood oral health conditions and experiences and your current oral health conditions and experiences, and a visual dental screening by a licensed dentist. Your answers to all questions will be confidential. After answering the questions, you will be asked to participate in a free, voluntary, dental screening by Dr. Lynn Gilbert, DDS, MPH. Dr. Gilbert will look in your mouth, using a light, a tongue blade depressor, and sterile gauze. All instruments will be sterile and disposable. No x-rays will be taken, although if x-rays and/or other further treatment are indicated, Dr. Gilbert will tell you this and will give you a list of licensed dentists within a reasonable traveling distance. This screening will also be confidential. In order to maintain confidentiality, a number will be assigned to locate and compare your results.

Your participation in this project is voluntary, you do not have to answer any questions that you do not want to, and you can stop the interview and/or visual inspection at any time. All information obtained in this study is confidential and a number will be assigned so that your name will not be associated with your responses.

If you decide not to participate in all or any part of this study, there will be no negative consequences and any further assistance or benefits are not contingent upon your participation in the study.

If you have any questions about this study, you may call Dr. Rick Briggs at 293-2081 or Dr. Christina DeBiase, at 293-3417.

Thank you for your interest in this project.

Sincerely,

Rick Briggs, EdD
Principal Investigator

APPENDIX C

CONSENT FORMS

**Consent and Information Forms
(Dental Assessment Project (DAP))**

Introduction. I, _____, have been invited to participate in this research study which has been explained to me by _____. This research is being conducted to collect baseline data by Rick Briggs, Suzanne Leizear, of the West Virginia University (WVU) Center on Aging, Christina DeBiase and Johnna Guzzi of the WVU School of Dental Hygiene, Ergoden Gunel, Statistics Dept., WVU College of Arts and Sciences, and Lynn Gilbert, DDS, MPH. This research study is part of the Aging Well in Calhoun County Project, which is funded by grants by the Sisters of St. Joseph Charitable Fund and the Claude Worthington Benedum Foundation.

Purpose of Study. The purpose of this study is learn more about oral health history, current oral health issues and the level of knowledge among elderly residents in Calhoun County in order to obtain baseline data for the purposes of program development and future research comparisons.

Description of Procedures. The interviewer(s) will: (a) introduce/describe the survey to me; (b) ask an eligibility screening question which requires me to be at least 60 and over in age, and (c) conduct the survey verbally. The introductory statement will state that interview participation is voluntary, that I do not have to answer any questions that I do not want to and that I can stop the interview at any time.

I understand that the questions on the survey/questionnaire are about my childhood oral health experiences and history and my current oral health experiences and conditions and that I will also have the opportunity to review the questions on the survey/questionnaire before I sign this consent form. The interview will take approximately 15 to 20 minutes to complete. At the conclusion of the interview, the interviewer will offer educational materials and discussion to me and I will receive a free toothbrush and tube of toothpaste. The interviewer will also advise me that upon completion of the interview, I have the option of participating in a free, voluntary, dental screening by Lynn Gilbert, DDS, MPH, to evaluate the current status of my oral health. This dental screening will also take an additional 15 to 20 minutes to complete.

_____ initials
Version Date 8/15/01

_____ Date

Page 1 of 3

**Consent form
Dental Assessment Project**

I understand that I will be given a card to participate in the free, on-site dental screening. This card will have an identification number corresponding to the identification number of my survey, so that my results can be compared. I understand that this dental screening will be an open-mouth, visual screening, with the dentist using sterile, disposable instruments, and following the OSHA infection control protocol. No x-rays will be taken.

It is my understanding that the results of my oral health history interview and the results of the dental screening will be compared and that if any oral health problems are found during the screening, Dr. Gilbert will provide me with information and/or a referral, if needed, regarding further treatment. Approximately 100 subjects will be entered in this study. I understand that my participation in this research project will be finished upon completion of the interview and dental screening, and that no additional involvement on my part will be required.

Risks and Discomforts. There are no known or expected risks from participating in this study, except for the mild frustration associated with the performance of the questionnaire, and mild discomfort associated with having someone looking into my mouth.

Alternatives: The only alternative is not to participate in this study.

Benefits. I understand that this study is not expected to be of direct benefit to me, but the knowledge gained may be of benefit to myself and others.

Contact Person. For more information about this research, I can contact Rick Briggs, EdD at 293-2081 or Christine DeBiase at 293-3417 For information regarding my rights as a research subject, I may contact the Executive Secretary of the Institutional Review Board at 293-7073.

_____initials
Version Date 8/15/01

_____Date

Page 2 of 3

**Consent form
Dental Assessment Project**

Confidentiality. I understand that any information about me obtained as a result of my participation in this research will be kept as confidential as legally possible. I understand also that my research records, just like hospital records, may be subpoenaed by court order or may be inspected by federal regulatory authorities. In any publications that result from this research, neither my name nor any information from which I might be identified will be published without my consent.

Voluntary Participation. Participation in this study is voluntary. I understand that I am free to withdraw my consent to participate in this study at any time. Refusal to participate or withdrawal will involve no penalty or loss of benefits. I have been given the opportunity to ask questions about the research, and I have received answers concerning areas I did not understand.

Upon signing this form, I will receive a copy.

I willingly consent to participate in this research.

_____	_____	
Signature of Subject or Subject's Representative	Date	Time
_____	_____	
Signature of Investigator	Date	Time

APPENDIX D

SURVEY

ATTACHMENT 2

Aging Well in Calhoun County Dental Assessment Project (DAP)

ID# _____ Educational Level
(Highest grade earned) _____
Age _____ Refused Marital Status : _____ never married
_____ widowed/widower _____ divorced _____ separated
Sex M F

Thank you for agreeing to participate our research project. Certain dental conditions have been known to have a negative impact on a person's overall health. Aging Well in Calhoun County is beginning a program to look at 1) how early oral health habits and experiences impact current oral health and 2) what oral health conditions are most prevalent among Calhoun County residents 60+.

Part I: Childhood oral health history and experiences

- 1) Were you bottle-fed?
 - 1- Yes
 - 2- No
 - 3- Don't know
 - a) If yes, how long were you bottle-fed?
 - 1- less than 6 months
 - 2- 6 months to 1 year
 - 3- more than 1 year
 - 4- more than 2 years
 - 5- Don't Know
 - 2a) How many cavities did you have in your baby teeth?
 - 1- None
 - 2- 1-3
 - 3- 4-7
 - 4- More than 7
 - b) Permanent teeth?
 - 1- None
 - 2- 1-3
 - 3- 4-7
 - 4- More than 7
- 3) Why do you think you had cavities?

- 1-too many sweets
- 2-didn't brush
- 3-didn't go to dentist
- 4-heredity
- 5-don't know
- 6-other

- 4) How often did you go to the dentist when you were a child?
- 1-Every 6 months
 - 2-Once a year
 - 3-Every 2-5 years
 - 4-Never went
 - 5-Don't Know/Can't remember
- 5) What are the reasons for not going with regularity to the dentist?
- 1-couldn't afford
 - 2-no transportation
 - 3-no dentists in town
 - 4-don't know
 - 5-afraid of the dentist
 - 6-Other _____
- 6) Did your parents make sure you went to the dentist?
- 1-Yes
 - 2-No
- 7) What mouth care was done as a child?
- a) Did you brush your teeth?
 - 1-Yes
 - 2-No
 - b) How often?
 - 1-Once a day
 - 2-Twice a day
 - 3-Not daily, but several times a week
 - 4-Less often than several times a week
 - c) Did your parents enforce brushing your teeth?
 - 1-Yes
 - 2-No
 - d) Did you have any other oral hygiene practices as a child?
 - 1-Yes
 - 2- No
 - If yes, please specify_____

8) Overall, how important was dental health to your parents?

- 1- Very Important
- 2- Somewhat Important
- 3- Average Importance
- 4- Less Important
- 5- Not Important at All

9) How important was YOUR dental health to your parents?

- 1-Very Important
- 2-Somewhat Important
- 3-Average Importance
- 4-Less Important
- 5-Not Important at All

10) Did your parents lose their teeth before age 35?

- 1-Yes
- 2-No
- 3-Don't Know

11) What did your diet consist of as a child? What kind of foods did you eat?

12a) Were sweets a big part of your diet as a child?

- 1-Yes
- 2- No

b) If, "yes", how often did you eat sweets?

- 1-every day
- 2-1-2 times a week
- 3-3-4 times a week
- 4-only on special occasions

Part 2 (Current Status): Please answer the following questions about your oral health.

1) Regarding your current dental/oral health needs, on a scale of 1-5, 1 being "need services now", and 5 being "don't need services at all", how would you rate yourself?

1 2 3 4 5

need services now services don't need any dental

2) Which statement best describes your situation?

Yes-1 No-2

I have all of my own teeth

I'm missing a few teeth

I wear full or partial dentures

I have no teeth and no dentures, or do not wear my dentures

If answer is #4, then ask: "Why don't you have or wear dentures?"

3) Do you currently have a dentist?

Yes-1 No-2

4a) If Yes, when did you see the dentist last?

Within the last 6 months-1 More than 5 years ago-4

Within the last year-2 Don't Know/Can't remember-5

Within the last 2-5 years-3

4b) What did you see the dentist for?

Emergency Care-1

Routine Checkup-2

Health screening-3

5) If you do not have a dentist, what is the reason?

Cost-1 Transportation is a problem-4

Don't need a dentist-2 Can't find a dentist/don't know any-5

I'm afraid of the dentist-3 Don't think it's important-6

6) On a scale of 1-5, with 1 being not important at all and 5 being very important, how important do you think dental health is?

1 2 3 4

5

Not at all
Important

Very

7) What are some of the things that you do to take care of your oral health? (Select all that apply)

Regular brushing (at least once a day) 1

Regular flossing (at least once a day) 2

Regular use of mouth rinse/mouth wash (at least once a day) 3

Other, please specify: _____ 4

8) Do you have any of the following conditions?

Yes-1 No-2

Dry mouth

Eating/chewing difficulty

No recent dental care (within 1 year)

Tooth or mouth pain

- | | |
|--|---|
| <input type="checkbox"/> Special Diet?
mouth | <input type="checkbox"/> Lesions, sores, or lumps in the
mouth |
| <input type="checkbox"/> Dentures cause sores or discomfort in the mouth | <input type="checkbox"/> Saliva is thick or absent |
| <input type="checkbox"/> Dentures are 6+ years old | <input type="checkbox"/> take multiple medications |
| <input type="checkbox"/> use alcohol/tobacco | <input type="checkbox"/> have a chronic/terminal illness |
| <input type="checkbox"/> Am on Oxygen | |

9) Where do you get information regarding dental health issues?

- 1 my dentist
- 2 my family doctor
- 3 newspaper
- 4 TV
- 5 Friends, family
- 6 Other _____

Part 3: Voluntary Dental Screening

The second part of this research project is a free, on-site, voluntary dental screening, by Dr. Lynn Gilbert, DDS, MPH. This visual inspection of your mouth will only take a few moments of your time, and will help us to identify some of the dental conditions and problems in the county. We would like to encourage you to participate in this screening and anyone who completes this survey, whether or not any questions have been marked, may have the dental screening.

Please note, even if you decline to participate in the above-mentioned free screening, if you have marked any of the questions on this survey, you may have a dental problem. We strongly recommend that you seek dental care as soon as possible.

Aging Well in Calhoun County is funded by grants from the Sisters of Saint Joseph Charitable Fund and the Claude Worthington Benedum Foundation. For information about this research project, call or Dr. Rick Briggs, at 304-293-2081.

VITA

Johnna Marie Guzzi

PROFESSIONAL EDUCATION

West Virginia University, Morgantown, WV 1997-2001
Bachelor of Science in Dental Hygiene

West Virginia University, Morgantown, WV 2001-2002
Master of Science in Dental Hygiene

ASSOCIATION MEMBERSHIPS

Student American Dental Hygienists Association
Golden Key National Honor Society
Mortar Board National Honorary
Gamma Beta Phi Honor and Service Organization
Rho Lambda Honorary Society