Oral Hygiene and Quality of Life among the Elderly

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Abstract

Oral Hygiene and Quality of Life among the Elderly

Objectives: To know if the oral hygiene affects the quality of life among Puerto Rican older adults and to describe the relation between the oral cavity status and the oral hygiene self-perception of older adults by using the Geriatric Oral Health Assessment Index (GOHAI) and The Kayser-Jones Brief Oral Health Status Examination (BOHSE).

Methods: The study was conducted to 30 older adults of 65 years old or older. The instruments BOHSE and GOHAI were administered to the participants that met the inclusion criteria.

Results: The results were obtained by using an analysis spreadsheet. Out of the which, 15 were females and 15 were males. The results from the GOHAI demonstrate that 79% feel that they have an appropriate self-perception of their oral cavity and the results from the BOHSE demonstrated that 96% evidenced an excellent oral hygiene.

Conclusions: The higher the self-perception of their oral hygiene score with the GOHAI evidenced a better oral hygiene status at the BOHSE. A Speech-Language Pathologist can prevent severe diseases or an aspiration pneumonia by creating awareness about the importance of maintaining an adequate oral hygiene.

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I would like to dedicate this thesis to my mom.

Mom, we did it!

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Chapter I

Introduction

Maintenance of a person's quality of life is essential across their lifespan. It is based on how positively or negatively events impact their daily activities. The United Nations Organization (ONU), defines the term of quality of life as the notion of human well-being measured by social indicators. In addition, as cited by Henao Lema and Gil Obando (2009), Felce and Cols declared that an important part of a person's quality of life depends on their life conditions, satisfactions, aspirations, and personal values. In medical and health researches the concept of quality of life is the concept that spans the areas related to physical, functional, psychological and social health of a patient (Popovic, Gajic, Obradovic-Djuricic, & Milosevic, 2015). Therefore, a persons' view on their quality of life is influenced by many factors. Above all, health is the most important indicator of life satisfaction.

Certainly, health related quality of life impacts on the performance across a persons' life. As stated by the Centers of Disease Control and Preventions (CDC) in 2011, health related quality of life includes resources, conditions, policies, and practices that influence a population's health perceptions and functional status. The needs and requirements to preserve a satisfactory health changes over time. Among the elderly, healthy behaviors are a reflection of the skills they acquired at their early stages in their lives (Cardenas, 2012). Even though, as the adult becomes older the skills needed to maintain their healthy habits become harder. Including that medication (Chalmers, 2005) and developmental changes in their oral cavity (Ashford, 2008) add a high risk of developing complex oral diseases and dental problems (Chalmers, 2005). For this reason, a special concern for their oral health arises.

Oral health related quality of life is the extent to which the oral diseases impact on individuals' normal functioning and is regarded as an integral part of general health and well-being (Ewa Rodakowska, 2014). Older adults tend to become less aware and less sensitive towards the need of cleaning their oral cavity. The possible physical limitations and hospitalization resulting from the illness may also reduce older people's awareness and/or capacity for self-care impacting negatively their oral hygiene (Doris S. F.Yu, 2008). Since they require more help to feed themselves and have difficulties swallowing and breathing, the quality of life of older adults' lives is receiving increased attention (Baernholdt, Hinton, Yan, Rose, & Mattos, 2012).

Among the elderly, the risk for inappropriate oral hygiene increases as they cannot take full responsibility for their own oral health. Therefore, for some older adults the primary source of their oral health comes from their care-givers, family members and/or professionals. According to the World Health Organization (WHO), estimated that by 2004 in Liberia there was only one dentist per one million people compared to six dentists per 10,000 citizens in United Stated of America. Giving the concern, that the need of well-prepared professionals delivering oral health to the elderly is needed.

The need for qualified professionals to work with the elderly will increased as time goes by. The National Institute of Aging (2007) stated that the world population for old adults over the age of 60 has increased significantly over the years. According to their statistics, it is expected that by 2030, 1 in every 8 of the earth's inhabitants will be 60 years old or more. The United Nations Department of Economic and Social Affairs, in Puerto Rico by 2000 the population with 60 years old or more was 15.4%. The Puerto Rico Chamber of Commerce stated that by 2050 in Unites States the population of 65 years or more will be 20.2% and in Puerto

Rico there will be 32.2% older adults. Special attention must be given to the elderly due to the fact that there will be an increased number of aging adults in the coming years. With this is mind, appropriate oral health care will be necessary to help them maintain their quality of life.

As mentioned before, protecting the oral cavity with an appropriate hygiene needs the collaboration of different professionals. One that takes an important role on patient's oral health, is a Speech-Language Pathologists (SLP). On the Scope of Practice of Speech-Language Pathology is stated that the speech-language services are designed to optimize individuals' ability to communicate and swallow, thereby improving quality of life. By providing consultation, prevention and counseling services an SLP can increase the amount of consciousness of the importance of oral health related quality of life among the elderly. On the Family and Medical Leave Act of 1993, severe illnesses is defined as an illness, injury, impairment or any physical or mental condition that requires inpatient medical care or continuing treatment by a health care provider. This research could help reduce the incidence of severe illnesses in older adults due to the lack of inappropriate oral hygiene by creating consciousness.

Purpose

The purpose of this research was to describe the self-perception of oral health related quality of life of older Puerto Rican adults.

Chapter II

Literature Review

As the adult becomes older different changes in his health are noticed. As cited by Brookshire (2015), health related quality of life is influenced in the severity and frequency of disease, illness, or physical capacities, but it also includes the effects of intervention on daily life well-being. The oral health related quality of life of older adults could be affected by their current life situation. Therefore, the need for understanding the importance of personal oral health becomes essential.

The oral cavity is the area where the mouth takes place. It is a space bordered anteriorly by the lips and posteriorly by the palate (Anderson & Shames, 2006). The components within the oral cavity are the lips, cheecks, teeth, tongue, gingival and buccal gutters and the soft palate (Murry & Carrau, 2012). The oral cavity is surrounded mainly by a mucous membrane.

Ashford (2015) stated that there are three purposes of the oral cavity. First, respiration, which is taking air in and out from the lungs. Second, communication, being able to speak and transmit a message. And last, which he identifies as the major purpose, is deglutition. Deglutition is the ability to chew and swallow food (Skorupka,et.al., 2012). Nutritional input then becomes the primarily action for the oral cavity. As a person places food or liquid in their mouth the swallowing process is triggered. This process is complex and needs the coordination from the oral cavity articulators and muscles. Swallowing is divided into four phases: oral preparatory, oral phase, pharyngeal phase and esophageal phase. When a break down occurs in the deglutation process, the result is a swallowing disorder, called dysphagia. Dysphagia can occur at any of the four phases and it is a factor that may result from innapropriate oral hygiene habits.

Innappropriate oral hygiene habits could then cause Pneumonia by aspiration. Aspiration

is the entry of material into the airway below the true vocal folds (Murry & Carrau, 2012). The term of aspiration pneumonia refers to the development of a pneumonia in the setting of patients with risk for increased oropharyngeal aspiration (Marik and Kaplan, 2003). In other words it is caused when bacteria and microbe inhabit the oral cavity. As a prevention element, appropriate oral hygiene must be taken into consideration in persons' life. Terpenning, et.al. in 2001 did a study on the importance of the oral hygiene in adults as a factor for aspiration pneumonia. They tested 358 adults over the age of 55 that were admitted to the hospital under the diagnosis of pneumonia. The study consisted on a face-to-face interview, a review of their medical record and a dental examination which included their current dentition status and oral health. They noticed that for both, dentate and edentulous patients, effective oral hygiene measures could also reduce the presence bacteria colonization in the oral cavity. As a result, it is seen that taking oral hygiene as a preventive method among older adults could be result in a better quality of life.

Elderly population have different views on their respective aging quality of life (QoL). In a study done to 643 disabled adults over the age of 65 by Jensen, et.al. in 2008 they tested the association between oral health- related quality of life and specific oral health and health by using the Oral Health Impact Profile (OHIP). Results demonstrated from their sample that 266 were edentulous, 496 wore denture and 259 believed they currently in the need of a dental tratment. Investigators proved that lower scores in the OHIP reflected worse oral health showing the need of oral hygiene as the adult becomes older. Also, as stated by Jensen, et.al. Medicare has never cvered dental services suggesting the need for special attention to oral health treatments.

Researchers and older adults generally agree that successful aging is multidimensional construct, yet there is no agreement on what the specific dimensions are or the processes by

which they occur (Hilton, et.al., 2012). The social and cultural environment through which an individual passes in the life course consists of expectations based on age, gender, social positions and social relations (Beyene, et.al., 2002). As an older adult is aging new views on QoL develop according to their current health situation. As cited by Rodakowska,et.al., Zeng, et.al. in 2013 revealed that the population of people worldwide is constantly growing older and their health-related quality of life (HRQoL) is an increasing public health concern. Among the elderly this concern will be determined on their culture.

In a study done by Hilton,et.al. (2012), they interviewed a total of 60 latino adults that were 50 years old or more. They used an open ended questionnaire that described their perception of successful aging in their own words. As the latino adults were compared with other cultures, the results demonstrated that their aging perception was influenced by their cultural roots impacting on how they perceive the aging process.An influenced in their aging perception culture perceptioned had an impact on how they were that cultural roots in terms of how they perceive the aging process. Maintaining a positive outlook, focusing on the present, the importance of community, and relying on spirituality and family for comfort and meanign are important to Latinos as they age (Hilton,et.al.,2012). For this reason, within the Latin population the view of QoL is based on their culture beliefs.

Latino elderly population health related QoL is influenced by “home remedies” before pursuing medical treatment. Ruiz, et.al. in 2012 stated that elders first try anything that they are familiar with and if there is no improvement or the symptoms worsened, they seek family or medical help. Within the Latin culture, creating awareness about their HRQoL is essential. Latin elderly will then be knowledgeble about the importance of their HRQoL rewarding their abilities on eating, swallowing and communicating.

In Puerto Rico, as viewed at the Puerto Rican Elderly: Health Conditions (PREHCO) general report of 2004, a total of 38% older adults reported difficulty on chewing food with half of their denture or less and 29.2% reported difficulty on chewing food with no tooth. This percentages have a direct impact on Puerto Ricans oral health related quality of life (OHRQoL). Preventing innapropriate OHRQoL among the elderly in Puerto Rico will results in the reduce amount of neglection for their own health. Individuals self-perception about their oral hygiene can be measured by assessments and questionnaires.

Oral health assessment relies on a person's ability to self report any dental symptoms (Chalmers, et.al., 2005). To provide information about a person's oral hygiene the use of assessments are helpful among clinicians. The ones that this study will use are the Geriatric Oral Health Assessment Index (GOHAI) and The Kayser-Jones Brief Oral Health Status Examination (BOHSE).

The GOHAI, according to Atchison and Dolan (1990) is a self- reported measure design to assess the oral health problems of older adults. It consists on 12 questions where the patient can grade their oral health as excellent, very good, good, fair or poor. During the development of the GOHAI, the enrollment criteria was being at least 65 years of age, a Medicare participant, English speaking, having a telephone, and having no terminal or dementing illness (Atchison & Dolan, 1990). When the study was done, the author's findings were that a patient is capable of measuring their own oral health. Even though they state that, functional and psychological considerations may be different from the clinician's rating of health. The instrument has been used in different countries, such as Japan, Mexico, Colombia, Poland and Costa Rica. It have been seen that is an accurate measurement for the elderly population. Borboletto, et.al. in 2010 used the GOHAI in Piracicaba city, São Paulo, Brazil on

137 older adults. Their purpose was to assess the self-perceived oral health status or older adults. The results showed that 27.5 indicated a low self-perception of oral health. The combination of motivation and self-perception for dental treatment is a risk indicator for a low GOHAI final score. In other words, motivation and self-perception are risk factors for inappropriate oral hygiene.

Rodawoska, et.al. in 2014 used the GOHAI in Bialystok, north-east Poland in 178 adults over the age of 65. Their findings showed dental status, partial dentures, chewing problems, dry mouth and self-rated oral health were significantly associated with the results of the GOHAI. Concluding that the GOHAI is an appropriate instrument to capture oral health problems and the correlation to quality of life of older adults. In a different study Popovic, et.al. in 2015 proved that the GOHAI results demonstrated a high correlation to oral health and older adults quality of life. In their study they performed the questionnaire in 27 older adults showing evidence that from the sample 3 were dentulous, 16 had 10 teeth extracted, while 11 had 11 to 25 teeth extracted. Giving evidence that older adults denture status impacts their quality of life. Rodawoska,et.al. and Bortoletto,et.al. agreed that by using the GOHAI oral health related quality of life could be measure.

As cited by Chia-Hui Chen (2007), the BOHSE is a 10 item examiner rated measurement that reflects oral health status of an individual. According to this examination a higher score indicates more problems identified. In a study made by Yu, et.al. in 2008, the BOHSE was administered to 155 older adults who were 65 years old or more. The results from the study showed evidence that according to the BOHSE scores the participants had problems in dental status and oral cleanliness (Yu, et.al., 2008). Also, it was noticed that more than 60% of the individuals showed food remains resulting of an inappropriate oral hygiene. The research

demonstrated that the elderly oral hygiene has to be taken care by various professionals, including a dentist and a speech language pathologist (SLP).

One the roles of an SLP is preventing and counseling about health illnesses that might affect the communication or swallowing process. Giving the fact, that as seen before, inappropriate oral hygiene could result in aspiration pneumonia or dysphagia. The American Speech-Language-Hearing Association (ASHA) states that an SLP has the role of preventing communication and swallowing disorders by promoting a healthy lifestyle and educating consumers about how to prevent disorders that may lead to impairment. Reducing the amount of cases with chewing or swallowing difficulties or even the risks for more severe illnesses.

To conclude, it is evident that inappropriate OHRQoL has been a concern among the elderly population. Ashford and Skelley stated that normal aging appears to cause few significant changes to the surfaces of the oropharyngeal cavities. In addition, the use of medication, illnesses or life situations could impact the status of the oral cavity. Older adults oral hygiene has have an strong correlation with their quality of life as seen in the studies. For this reason, special attention to their OHRQoL has been addressed during the past years. A study to identify the oral health related quality of life of older Puerto Rican adults has not been done. This research will help obtain relevant information to this country.

Chapter III

Methodology

Introduction

The design, methodology, instruments and confidentiality used for this research will be stated below.

Objectives

The primary objective for this research was to know if the oral hygiene affects the quality of life among Puerto Rican older adults. As a secondary objective, to describe the relation between the oral cavity status and the oral hygiene self-perception of older adults by using the Geriatric Oral Health Assessment Index (GOHAI) and The Kayser-Jones Brief Oral Health Status Examination (BOHSE).

Participants and their description

There was a maximum of 50 participants in the study.

Inclusion criteria

The participants of this study needed to met the inclusion criteria as followed:

1. Be 65 years old or more.
2. Have a passing grade of 26 or higher at the Montreal Cognitive Assessment (MoCA).
3. Native Spanish speakers.
4. Be a reader.

Exclusion criteria

The exclusion criteria for the participants was as followed:

1. Be less than 65 years old.
2. Have score of a 25 or less at the MoCA.
3. Nonnative Spanish speakers.
4. Not a reader.

Participant recruitment procedure

The selection of the participants for this study was done through the snowball effect. The referrals of possible participants was expected to be done by other participants. Once the first participants are contacted, they were asked if they know any other possible participants that met the inclusion criteria to participate in the study. The researcher contacted the next participant and the same process was applied. By asking a number of people who else to talk with, the snowball gets bigger and bigger and researcher accumulated new information-rich cases (Patton, 2002).

The initial approach to get the first participants was done by posting an information sheet about elderly centers and the Clínica de Servicios Interdisciplinarios de la Universidad del Turabo (CSIUT). An announcement sheet was given to the possible participants before they agreed to be part of the study. If a participant agreed and followed the investigators inclusion criteria that were mentioned above, he or she was recruited. Participants were able to set up a date and time that was more convenient for them to participate in the study.

Research setting

The researcher visited possible elderly centers in Puerto Rico. The center directors for each of the centers were identified and contacted. The researcher asked for their support so the research could had taken place at their facility. If the center director agreed, he or she was asked to submit a letter about the agreement and permission to place the announcement sheet for the study at their center. The same procedure was administered at the CSIUT with the clinical director.

Depending on what setting the research took place, different accommodations were arranged. For instance, if it took place at the CSIUT a therapy room was coordinated with the

clinical coordinator. In the cases were the participants were recruited at any other settings, the arrangements were done through the center director. Also, if a participant was unable to attend the CSIUT, the research setting was changed. The investigator allowed the participant to select a setting that was best for his or her convenience.

Announcement sheet procedure

The participants had access to the announcement sheet that was given before they went into the research. This document collected the information related to the study. They were notified that they had the right to abandon the study at any moment without any penalty. When agreed to participate, the participants were given an information sheet. The researcher made sure the participant understood the information by asking questions about it. An opportunity to clarify any doubts or answer questions was given before the study started.

Instruments

The instruments that were used in the study are the following: The Montreal Cognitive Assessment (MoCA), The Kayser-Jones Brief Oral Health Status Examination (BOHSE) and the Geriatric Oral Health Assessment Index (GOHAI). The MoCA is a Cognitive test were the participant was asked to trace a simple picture, remember words, recall the current date and name a simple picture. The BOHSE is an instrument where the investigator looked at the participants oral cavity and measure it using this guideline. The GOHAI is an instrument that the participant answered, on a scale from 1 throw 5 about their perception of their oral cavity, This instruments was used to gather the data from each of the participants. The instruments were administered one at a time.

Data Collection Method

Once all the doubts that the participant had from the information sheet were cleared, the study was done according to the following directions. The first instrument that was administered was the MoCA. This instrument was part of the inclusion criteria and allowed the researcher to know if the participant was adequate for the study. If the score from the MoCA was 25 or less the participant did not met the inclusion criteria. They were given a referral for a speech and language screening at CSIUT to verify if additional services were needed. If the score was 26 or higher the participant continued in the study.

Next, the BOHSE instrument was used to know the current status of the participant oral cavity. The researcher put on gloves and used a penlight to clearly observe the oral cavity. The data of the BOHSE was written down on the examination sheet as it was gathered. The last instrument that was administered is the GOHAI to obtain self-reported data about the elderly oral health. The participant was asked to read the GOHAI and answer accordingly.

The study took approximately between 30 minutes or 45 minutes depending on the participant. It was estimated that the time was distributed as followed: 10 minutes for introduction and the administration of the MoCA, 10 minutes for the BOHSE and 10 minutes for the GOHAI.

Accommodations

The questions from the MoCA and the twelve questions from the GOHAI were enlarged to themed font of Times New Roman size 36 to facilitate the reading for the participants.

Risks

During the study the participants could feel tired, bored, present stress or feel emotionally affected if they notice the impact that oral hygiene could have in their quality of life.

Benefits

The participants were notified if they were at risk for an inappropriate oral hygiene and they were referred to the CSIUT or to a dentist.

Confidentiality

To ensure their confidentiality, they were identified by pseudonym. Meaning that there was no type of indicator of their identity. The results gathered from the MoCA, the BOHSE and the GOHAI were saved inside a box with a lock that secures the information. The box was placed in the investigator's room and after five years the information will be shredded and discarded.

Chapter IV

Results

The investigator gathered a total of 34 participants. Participants ranged between the ages of 65 to 85 years old. From the sample, only 30 met the inclusion criteria, 15 men and 15 women. The participants who did not met the inclusion criteria were referred to the Speech Pathology Clinic at Universidad del Turabo for a formal assessment. It is safe to say that all the participants from this study are independent living older adults.

The participant's sample was gathered at the Speech Pathology Clinic at Universidad del Turabo, local elderly communities and churches. Once the participants, accepted to be part of the study, they given and explained an information sheet. The study was done using the following sequence: MoCA, the Kayser-Jones Brief Oral Health Status Examination (BOHSE) and the Geriatric Oral Health Assessment Instrument (GOHAI). The GOHAI questionnaire was read out loud for the majority of the participants. As the instruments of the study were answered, the investigator placed them inside a locked box to ensure the gathered information was not exposed. The instruments will remain saved for a period of five years and then shredded in order to comply with the IRB guidelines.

As mentioned before, after the MoCA the BOHSE instrument was administered, the clinician used the BOHSE as a guideline to screen the oral cavity hygiene status of the participants. The participants can be given a score from 0 to 20 points; lower scores reflect a better oral cavity. Table 1, reflects that 97% of the participants had an excellent status of the oral cavity. Most of the participants used artificial teeth but maintain an adequate care of their set of teeth. Only 3% of the participants had an acceptable oral cavity, most of them due to broken or missing teeth.

Table 1. BOHSE scores

BOHSE Score	***Excellent (0-5)***	***Acceptable (6-10)***	***Unacceptable (11-15)***	***Bad (16- 20)***
Frequency	*97%*	*3%*	*0%*	*0%*

The GOHAI was, the instrument that followed. On this instrument, the participants could score from 12 to 56 points; higher scores reflect a better self-perception of their oral cavity. Table 2, reflects that 77% of the participants were aware of their good oral cavity condition, 17% identified themselves with having an average oral cavity, and 7% perceived their oral cavity as poor.

Table 2. GOHAI Scores

GOHAI Scores	**Severe (12-24)**	**Poor (25-36)**	**Average (37-48)**	**Good (49- 60)**
Frequency	0%	6%	17%	77%

The GOHAI was divided in three categories: a) Physical function, which includes eating, speaking, and the corresponding swallowing. b) Psychosocial function, includes worries about oral health, dissatisfaction with appearance, self–consciousness related to oral health, and difficulty in social contact due to oral conditions. c) Pain and discomfort includes the use of medication to alleviate pain in the oral cavity (Sánchez,et.al.,2010). The majority of the participants mentioned that they never have any difficulty eating or speaking. Also, feeling comfortable with heir oral cavity while talking to others or socializing with them, they do not use any medication for their oral cavity and can swallow appropriately. Graphs 1, 2, and 3 show the results divided by the previously described categories.

The GOHAI was created by Atchison and Dolan in 1990, Table 3 demonstrate the questionnaire used with the participants. The Spanish version used by Sánchez,et.al.(2010) was utilized for this study.

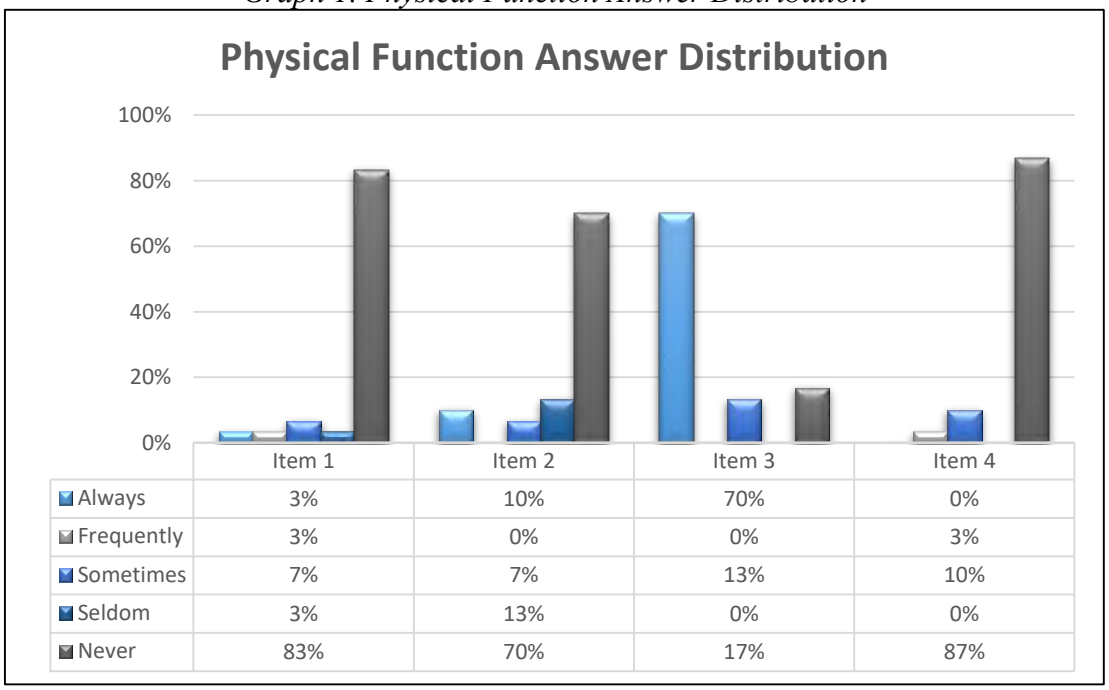
Table 3. GOHAI English version

1. How often did you limit the kinds or amounts of food you eat because of problems with your teeth or dentures?
2. How often did you have trouble biting or chewing any kinds of food, such as firm meat or apples?
3. How often were you able to swallow comfortably?
4. How often have your teeth or dentures prevented you from speaking the way you wanted?
5. How often were you able to eat anything without feeling discomfort?
6. How often did you limit contacts with people because of the condition of your teeth or dentures?
7. How often were you pleased or happy with the looks of your teeth and gums, or dentures?
8. How often did you use medication to relieve pain or discomfort from around your mouth?
9. How often did you feel nervous or self-conscious because of problems with your teeth, gums, or dentures?
10. How often were you worried or concerned about the problems with your teeth, gums, or dentures?
11. How often did you feel uncomfortable eating in front of people because of problems with your teeth or dentures?
12. How often were your teeth or gums sensitive to hot, cold, or sweet?

Table 4. GOHAI Spanish version

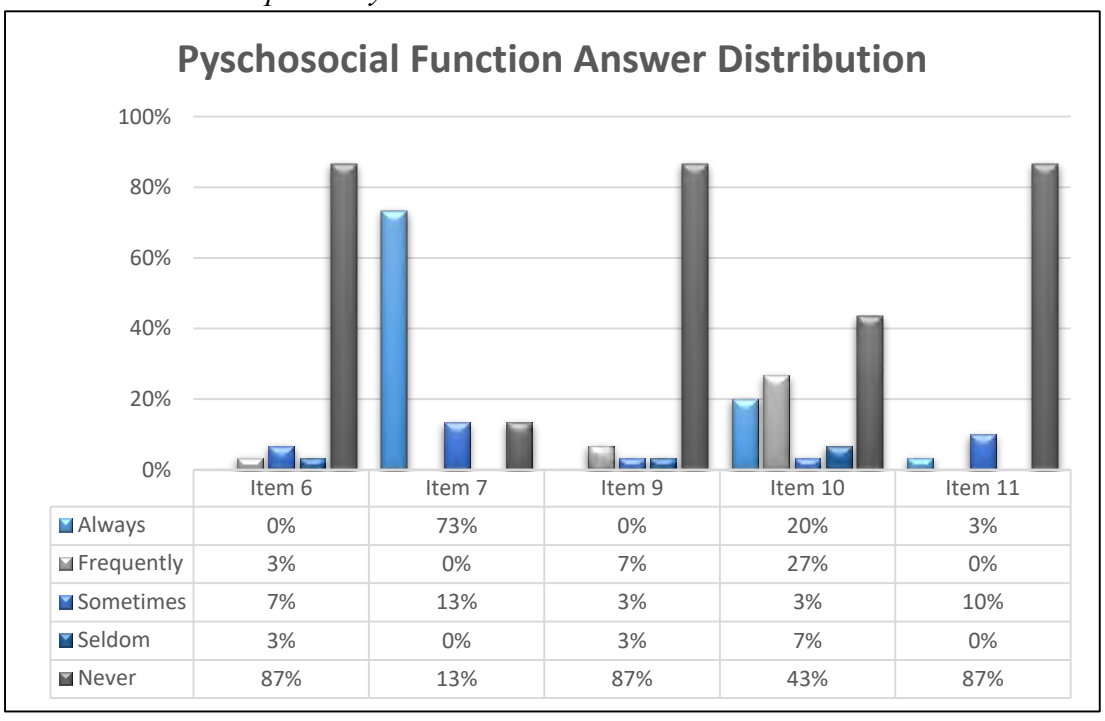
1. ¿Con qué frecuencia limita la calidad y cantidad de consumo de comida por problemas con sus dientes o dentadura?
2. ¿Con qué frecuencia tiene problemas para masticar o morder alimentos como carne o manzanas?
3. ¿Con qué frecuencia es capaz de tragar o deglutir confortablemente?
4. ¿Con qué frecuencia los dientes o dentadura le impiden hablar en la forma en que quisiera?
5. ¿Con qué frecuencia es capaz de comer, sin sentir malestar?
6. ¿Con qué frecuencia limita sus contactos con la gente por sus problemas con la dentadura?
7. ¿Con qué frecuencia se siente satisfecho con la apariencia de sus dientes, encía o dentaduras?
8. ¿Con qué frecuencia usa medicamentos para aliviar el dolor de sus dientes, encías o dentaduras?
9. ¿Con qué frecuencia se siente nervioso o ansioso por sus dientes, encías o dentaduras?
10. ¿Con qué frecuencia se preocupa acerca de los problemas de sus dientes, encías o dentaduras?
11. ¿Con qué frecuencia se siente incómodo de comer enfrente de la gente por problemas con sus dientes o dentaduras?
12. ¿Con qué frecuencia sus dientes o encías son sensibles al calor, frío o dulce?

Graph 1. Physical Function Answer Distribution



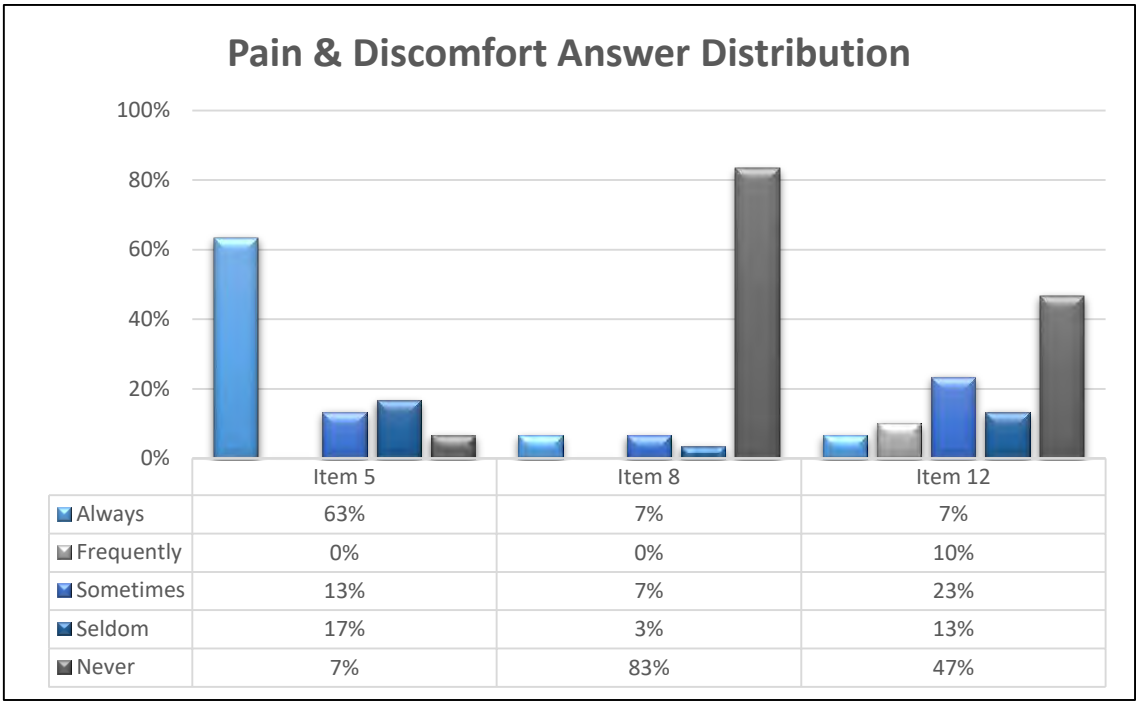
	Item 1	Item 2	Item 3	Item 4
Always	3%	10%	70%	0%
Frequently	3%	0%	0%	3%
Sometimes	7%	7%	13%	10%
Seldom	3%	13%	0%	0%
Never	83%	70%	17%	87%

Graph 2. Psychosocial Function Answer Distribution



	Item 6	Item 7	Item 9	Item 10	Item 11
Always	0%	73%	0%	20%	3%
Frequently	3%	0%	7%	27%	0%
Sometimes	7%	13%	3%	3%	10%
Seldom	3%	0%	3%	7%	0%
Never	87%	13%	87%	43%	87%

Graph 3. Pain and Discomfort Answer Distribution



	Item 5	Item 8	Item 12
Always	63%	7%	7%
Frequently	0%	0%	10%
Sometimes	13%	7%	23%
Seldom	17%	3%	13%
Never	7%	83%	47%

On the GOHAI, the items five and ten caused confusion among most of the participants. The investigator needed to clarify those two questions most of the time. Item number five asks: "How often are you able to eat anything without feeling discomfort?" which in the Spanish version translates into "¿Con qué frecuencia es capaz de comer, sin sentir malestar?" It is asking if the participants are able to eat comfortably meaning without any difficulties. Most of the participants answered "Never", at this time the investigator made sure they understood the question by explaining it to them, in most of the cases they were able to clarify that the "always" are able to eat comfortably. For item number ten, that asks: "How often were you worried or concerned about the problems with your teeth, gums, or dentures? Which in the Spanish version translates into "¿Con qué frecuencia se preocupa acerca de los problemas de sus dientes, encías o dentaduras?" The answered vary from one participant to another. Some of the participants answered the item based on how many times they attended

a dentist office and others answered the questions based on how much the worried about they denture on a daily basis.

The items seven and nine asks directly how they feel about their oral cavity. Item seven asks: “How often were you pleased or happy with the looks of your teeth and gums, or dentures?” which in the Spanish version translates into “¿Con qué frecuencia se siente satisfecho con la apariencia de sus dientes, encía o dentadura?” and question nine asks: “How often do you feel nervous or self-conscious because of problems with your teeth, gums or dentures? Which in the Spanish version translates into “¿Con qué frecuencia se siente nervioso o anscioso por sus dientes, encías o dentadura?” The items seven and nine relate to their own self-perception of their teeth. For item seven, 73% answered “always” feeling pleased or happy with their oral cavity. Finally, 87% mentioned “never” feeling nervous about problems in their teeth or oral cavity for item nine.

Most of the older adults wanted to know more information about the importance of their oral cavity. About half of them were interested in their results from the BOHSE and asked about their current oral hygiene status. The investigator verbally informed the participants about the best strategies for oral hygiene and its importance as a preventing action for aspiration pneumonia or other illnesses.

The information gathered from the GOHAI evidenced that as the GOHAI scores were higher the scores from the BOHSE were lower. Results suggest that Puerto Rican older adults take into consideration the health of their oral cavity as they age, which is an important factor to prevent aspiration pneumonia or other severe illnesses.

Chapter V

Introduction

The elderly population will increase in the coming years. Professionals and researchers are gathering data about older adults health and life style. One of the aspect that has become a greater concern for aging adults is the status of the oral cavity in relation to their quality of life. For this reason, as cited by Cavalheiro, et.al. (2016), perceptions of their oral health status and related impacts of dental pain on their daily lives are important in planning services designed to improve the quality of life of individuals. Through this study, the investigator goal was to describe the self-perception of oral health related quality of life of older Puerto Rican adults. Creating awareness about the importance of maintain an adequate oral hygiene as a preventing action for aspiration pneumonia or other illnesses.

The study was performed using cognitive healthy adults of 65 years or older. From a sample of 34 participants only 30 shown an adequate cognitive level in order to taken them into consideration for the study. From that sample, 15 were females and 15 were males giving a balanced number among genders.

Discussion

The results evidenced that 29 out of the 30 participants had an adequate oral hygiene when checked by the investigator. Most of the participants mentioned during the study that visiting a dentist at least every six months is important to them. On the other hand, when answering the questions from the GOHAI about how they view their oral health 23 out of the 30 participants scored under a good self-perception, 5 out of the 30 participants scored on an average, 2 out of 30 scored under a poor self-perception of their oral health. Evidencing that in

general older adults have an appropriate oral cavity hygiene and goes along with an appropriate self-perception. The BOHSE and the GOHAI took an important role when gathering the results.

On one hand, according to YU,et.al. in 2008 the BOHSE is an instrument that in their study was used to measure the actual status of a participants oral cavity. The instrument provided adequate and relevant data for their study. The congruence of this instrument is seen in this study. As the results from the BOHSE demonstrated the participant's oral status.

On the other hand, Rodawoska, et.al. in 2014 used the GOHAI in their study. Showing evidence that this instruments provides specific data about the participant's self-perception of their oral hygiene. Since the GOHAI was the instrument used in this study, it is seen that the participant's self-perception of their oral cavity was measured appropriately.

Also, there were two variables that were controlled. Every participant was explained in the same way the procedure of the study. Including that the instruments were given in the same order. A variable that was not controlled was the setting where the study took place. The amount of background noise during the study varied between participants.

Conclusion

This evidence that in general, older adults have an appropriate oral cavity hygiene that goes along with an appropriate self-perception. The older adults over the age of 65 that participated from this study had an appropriate self-perception of their oral cavity status. Giving an importance to their oral hygiene in comparison to their general health. This is an important factor in order to prevent aspiration pneumonia or other illnesses.

When treating older adults, a Speech-Language Pathologist (SLP) must take their oral hygiene status. Since this will allow for a better performance in the patients treatment. Also, it is important that the SLP takes into consideration the self-perception the patient has about his or

her oral health status. Also, the SLP acts as a prevention agent by reducing the risk for speech and swallowing risks due to an inadequate oral hygiene.

Recommendations

A correlation between the GOHAI and the BOHSE was not possible due to the sample size. It is recommended that a study is performed with a larger sample size. The larger the sample, a stronger correlation may exist between the current status of the participant's oral cavity by using the BOHSE and their self-perception of the oral cavity by using the GOHAI. The study may also include additional variables such as, geographic area, socioeconomic status and dental history. Having this information may allow the investigators to obtain more precise data.

In further investigations, it is recommended that the MoCA instrument is not administered. This is because it limits the amount of participants and it only allows you to gather data from independent living adults. Important considerations for older adults with limited daily living skills or more dependent could help gather specific information. Considering that prevention awareness among less independent older adults could result in reducing aspiration pneumonia cases or other illnesses. Prevention awareness among older adults is important to help them maintain an adequate oral hygiene related quality of life.

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TURABO | UNIVERSIDAD DEL TURABO
SISTEMA UNIVERSITARIO ANA G. MÉNDEZ

Programa de Patología del Habla-Lenguaje

Le estamos invitando a participar de nuestra investigación titulada:

Higiene Bucal y Calidad de Vida en Envejecientes

Si usted tiene 65 años o más, habla español, puede leer y desea compartir su opinión puede participar de este estudio.

Contacto:
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Investigadora: Lauren R. Anzures

Mentora: Dra. María Centeno

Sistema Universitario Ana G. Méndez
Universidad del Turabo
Escuela de Ciencias de la Salud

Información para participar en una investigación
Carta Informativa

Higiene Bucal y Calidad de Vida en Envejecientes

Mi nombre es Lauren Rocío Anzures y actualmente soy estudiante de Maestría del Programa de Patología del Habla y Lenguaje. Uno de los requisitos del programa es la realización de una Tesis cuyo propósito es ampliar el conocimiento dentro del campo de Patologia del Habla. El titulo de mi tesis es "Higiene Bucal y Calidad de Vida en Envejecientes", cuyo objetivo es describir la auto percepción de la calidad de vida con relación a la higiene bucal de envejecientes en Puerto Rico.

Para poder llevar acabo mi investigación, necesito de su colaboración en la misma. Usted tendría que realizar una prueba corta llamada MoCa, la cual se describe a continuación, se observara su cavidad oral por fuera utilizando un instrumento llamado BOHSE, y por ultimo contestar unas preguntas relacionadas a la higiene bucal y la calidad de vida de un cuestionario llamado GOHAI. El tiempo aproximado para completar este estudio será alrededor de 30 minutos o menos.

Para participar debe cumplir con los siguientes criterios de inclusión:

1. Tener 65 años o más.
2. Hablar español.
3. Saber leer.
4. Obtener una puntuación de 25 o más en la Evaluación Cognitiva Montreal conocida por sus siglas en Ingles como MoCA. Durante esta corta prueba, usted tendrá que realizar varias actividades tales como trazar un dibujo, recordar una palabras e identificar un objeto.

La confidencialidad de los participantes de este estudio será protegida mediante anonimato. Con cada participante se utilizará un seudónimo para proteger su identidad. No se le solicitara información personal y los resultados de las pruebas MoCA, BOHSE y GOHAI serán guardados bajo llave dentro de una caja en la residencia del investigador por un periodo de cinco años, luego los documentos serán triturados y llevados a un depósito de desperdicios. Los mismos estarán bajo la tutela de la investigadora principal Lauren R. Anzures.

En esta investigación se identifican riesgos mínimos ya que no se pone en peligro la salud de los participantes y no requiere de métodos invasivos. Sin embargo los participantes podrían experimentar aburrimiento, cansancio y niveles de estrés.

Los beneficios para los participantes son de carácter principal, ya que, a través de esta investigación ellos recibirán información escrita y verbal sobre la importancia de mantener una higiene bucal adecuada.

Su participación es este estudio es totalmente voluntaria. Usted tiene todo el derecho de decidir participar o no de este estudio. Si usted decide participar en el mismo tiene el derecho de retirarse en cualquier momento sin penalidad alguna.

Si usted tiene alguna duda o inquietud correspondiente a este estudio de investigación o si surge alguna situación durante el periodo de estudio, por favor contacte a Lauren R. Anzures, lanzures1@email.suagm.edu al (915)667-1291. Si usted tiene preguntas sobre sus derechos como sujeto de investigación por favor comuníquese con la Oficina de Cumplimiento en la Investigación del SUAGM al (787)751-3120 o compliance@suagm.edu.

Una copia de esta carta informativa le será entregada.

Edad: _____

Género: ____ M ____ F

Cuestionario GOHAI

Ítems	Pregunta: En los tres últimos meses…	S	F	AV	RV	N
1	¿Con qué frecuencia limita la calidad y cantidad de consumo de comida por problemas con sus dientes o dentaduras?	1	2	3	4	5
2	¿Con qué frecuencia tiene problemas para masticar o morder alimentos como carne o manzanas?	1	2	3	4	5
3	¿Con qué frecuencia es capaz de tragar o deglutir confortablemente?	5	4	3	2	1
4	¿Con que frecuencia los dientes o dentadura le impiden hablar en la forma en que quisiera?	1	2	3	4	5
5	¿Con qué frecuencia es capaz de comer, sin sentir malestar?	1	2	3	4	5
6	¿Con qué frecuencia limita sus contactos con la gente por sus problemas con la dentadura?	1	2	3	4	5
7	¿Con qué frecuencia se siente satisfecho con la apariencia de sus dientes, encía o dentaduras?	5	4	3	2	1
8	¿Con qué frecuencia usa medicamentos para aliviar el dolor de sus dientes, encías o dentaduras?	1	2	3	4	5
9	¿Con qué frecuencia se siente nervioso o ansioso por sus dientes, encías o dentaduras?	1	2	3	4	5
10	¿Con qué frecuencia se preocupa acerca de los problemas de sus dientes, encías o dentaduras?	1	2	3	4	5
11	¿Con qué frecuencia se siente incómodo de comer enfrente de la gente por problemas con sus dientes o dentaduras?	1	2	3	4	5
12	¿Con qué frecuencia sus dientes o encías son sensibles al calor, frío o dulce?	1	2	3	4	5

S= siempre (1); F= frecuentemente (2); AV= algunas veces (3); RV= rara vez (4); N= nunca (5).