

# Awareness on Oral Health Changes at Menopause and the Oral Healthcare Seeking Behaviors of Menopausal Women in a Selected Educational Institution

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## Abstract

During menopause, a woman experiences hormonal changes that can affect the whole body, oral health-related problems like Xerostomia, increased dental caries, changes in taste, gingivitis, Burning mouth syndrome, periodontitis, and osteoporotic jaws. The aim of this study was to determine the correlation between the awareness of oral health changes of menopausal women and their oral health-seeking behaviors. The study employed the Descriptive- correlational, and Comparative designs through the use of the Frequency, Percentages, Mean, Standard Deviation, Kruskal Wallis, and Mann- Whitney Tests for statistical analysis. The study included 42 menopausal employees who were aged 40 – 65 years and above of a selected educational institution. They were recruited through Purposive Sampling and were requested to answer an online questionnaire via Google Forms. The total Awareness level of the participants had a mean score of 6.833 with a Standard Deviation of 2.76667, which can be interpreted as an *average* awareness level. For the Oral healthcare-seeking behaviors of the respondents, it showed a mean score of 3.4262 with a Standard Deviation of 0.46699, which can be interpreted as a *good* level of behaviors. The results of this study conclude that there is no difference in the awareness and behaviors of the menopausal women except in terms of medications which had a p-value of 0.009 which means that there was a significant difference between them. The awareness of oral health changes and oral health-seeking behaviors of menopausal women have a low positive significant relationship to each other. The researchers recommend that a new study be conducted by future investigators in a larger population of menopausal women in order to yield greater statistical reliability and validity.

**Keywords:** menopause, behavior, awareness, oral health, women

## INTRODUCTION

Women go through many changes along the course of their lives. One of the first changes occurs during puberty which is around the ages of 7 – 13 years (Druet, 2017). At puberty, girls experience their first period, also referred to as menarche. After this, they go through regular monthly periods (menstrual cycle), which will continue for the next 20-30 years of their life (Woodham, 2015).

After twelve consecutive months without menstruation, the woman is said to be going through menopause (Coney, 2018). The average age at which this happens is 51 years, but it can occur as early as 30 and as late as 60 (Stoppler, 2019). During menopause, a woman experiences hormonal changes that can affect the whole body, leading to certain conditions such as Osteoporosis, Cardiovascular diseases, cancers, and oral health-related problems. One major and very common incidence observed in post-menopausal women is the occurrence of dental problems (Yalcin, Gurgan & Gul, 2006). Examples include Xerostomia, increase in the prevalence of dental caries, changes in taste, atrophic gingivitis, burning mouth syndrome, periodontitis, and osteoporotic jaws (Suri & Suri, 2014).

Many studies have been made around the topic of menopause and the effects it has on women with this condition. A study done by Palomo et al. in 2013 emphasized the need to educate post-menopausal women on their Periodontal Health. On the other hand, a study in India was conducted by Malik et al. in 2018, in which there were two groups. The Experimental group of 60 women received a Lifestyle modification program while the other group of 60 women was part of the Control group. It was concluded that this program was effective in lessening Menopausal symptoms and improving their health-seeking behaviors.

### **Research Hypotheses**

1. There is no significant difference in the awareness level of oral health changes at menopause among the respondents in terms of their demographic profile according to their:

- a) Age
- b) Income
- c) Occupation
- d) Educational Attainment
- e) Medical condition
- f) Medications

2. There is no significant difference in the oral healthcare-seeking behaviors at menopause among our respondents in terms of their demographic profile according to their:

- a) Age
- b) Income
- c) Occupation
- d) Educational Attainment
- e) Medical condition
- f) Medications

3. There is no significant relationship between the awareness level of oral health changes at menopause and the oral healthcare-seeking behavior of the respondents.

### **Scope and Limitations of the Study**

The scope of the study included 42 menopausal female employees who are aged 40-65 years and above of an educational institution. The limitation of this study is that it may not accurately represent the whole menopausal women population of the institution, as the study was just limited to those residing inside the University campus and those who have the accessibility to take the online questionnaire. The choices for the answers under the Oral healthcare-seeking behavior section of the questionnaire were broadly stated, which could not represent accurate replies from the respondents.

## METHODOLOGY

This study utilized the Descriptive-Correlational and Comparative designs. A Descriptive-Correlational study describes the relationship among variables in a particular sample. In this study, the researchers compared the awareness levels on oral health during menopause among the respondents in terms of their demographic profile and similarly compared the Oral healthcare-seeking behaviors of the respondents in terms of the respondents' demographic profile.

### Population and Sampling Technique

The population of the study consisted of menopausal Female employees of a selected Educational Institution in Cavite. The menopausal women fell within the age range of 40-60 years old and above. This study had a total of 42 respondents. A purposive sampling technique was utilized in the selection of the respondents. It is a method of non-probability sampling which involves the sample chosen based on the characteristics of a group and the study's goal. The researchers sent e-mails to their respondents asking them to partake in the study by kindly answering the online questionnaire provided through Google Forms.

*Table 1: The Demographic Profiles of the Respondents in terms of their Age*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	40 - 45 years	4	9.5	9.5	9.5
	46 - 50 years	9	21.4	21.4	31.0
	51 - 55 years	13	31.0	31.0	61.9
	56 - 60 years	13	31.0	31.0	92.9
	more than 60 years	3	7.1	7.1	100.0
	Total	42	100.0	100.0	

### Instrumentation

The researchers used a self-constructed questionnaire with the aid of the related literature in

order to identify and assess the level of awareness on oral health changes due to menopause and the oral healthcare-seeking behaviors of the participants. The questionnaire was administered through Google Forms, where the participants took the survey online. The survey questionnaire consisted of three parts.

The first part of the questionnaire was multiple-choice style and included the demographic profile of the respondents. Questions about their age, employment status, monthly income, occupation, educational attainment, known medical condition, and medications taken were asked.

The second part investigated their current awareness level regarding the oral health changes that occur as a result of menopause. Example questions for this part included: “Menopause can cause dry mouth?”, “Menopause can increase the prevalence of caries?”. A two-point scale or dichotomous scale was used, whereby the answer options were either “yes” or “no.” The results were interpreted using the scoring system in Table 2.

*Table 2: Scoring and Interpretation of Awareness*

SCALE	DESCRIPTIVE RATING
11.44 - 13.00 Correct	Very high Level of Awareness
8.83 - 11.43 Correct	High Level of Awareness
6.22 - 8.82 Correct	Average Level of Awareness
3.61 - 6.21 Correct	Low Level of Awareness
1- 3.60 Correct	Very Low Level of Awareness

Finally, the third part tested their oral healthcare-seeking behaviors. A 5-point Likert Scale was used (Always, Very Often, Sometimes, Rarely, Never), and questions like; “How often do you visit the dentist?” and “How often does pain motivate you to visit the dentist?” were asked. The results were interpreted with the scoring systems below:

*Table 3: Interpretation of Oral Health Care-seeking Behaviors*

RESPONSES	Response Scale	Mean Interval Score	Interpretation
Always	5	4.51 - 5.00	Excellent
Very often	4	3.51 - 4.50	Very Good
Sometimes	3	2.51 - 3.50	Good

Rarely	2	1.51 - 2.50	Fair
Never	1	1-1.50	Very Poor

The Pilot Study was conducted among 15 menopausal women who were relatives of some students who do not work for the university. The results obtained from the pilot study gave a Cronbach Alpha value of 0.842 and 0.680 for awareness level on oral changes at menopause and oral healthcare-seeking behavior at menopause, respectively.

### **Data Gathering Procedure**

The instrument was first submitted to a group of experts for validation and approval. Once it was approved, the researchers secured research clearance and permission from the Ethics Review Board (ERB) for ethical considerations. A letter to the Dean of the College of Dentistry requesting permission for the conduction of a Pilot Study was sent and approved. Upon approval, a Pilot Study was conducted on a group of 15 menopausal women to guarantee the reliability and validity of the questionnaire.

The recommendation from the statistician was to delete a total of 4 items from the Pilot Study questions to yield greater statistical reliability with a Cronbach alpha value greater than 0.60. After which, the research instrument was finalized and was distributed to the respondents through Google Forms. A total of 42 participants were recruited through purposive sampling, and the respondents were requested to answer the online questionnaire via Google Forms. The information was collected, encoded, analyzed, and validated by a statistician.

### **Analysis of Data**

The researchers treated the data statistically with the help of the college statistician and the supervision of the Research Adviser. The encoded data was analyzed through the use of IBM SPSS statistics 20 computer program as follows:

1. Frequency distribution and percentages were used to determine the percentage distribution of the demographic information of the respondents.
2. Frequency and percentage were used to measure the awareness level on oral health changes at menopause for each individual item on the research questionnaire among the participants. The mean and standard deviation was then used to determine the total awareness level on oral health changes and the oral healthcare-seeking behaviors of the respondents.
3. Kruskal-Wallis Test and Mann-Whitney Test (Non-parametric tests) were used to determine the significant difference between the awareness level on oral health changes at menopause and the oral healthcare-seeking behavior of the respondents in terms of their demographic profile.
4. Pearson Correlation was used to determine the relationship between the awareness level on

oral health changes at menopause and oral healthcare-seeking behaviors of the respondents.

## RESULTS AND DISCUSSION

Table 4: Variation of Oral Health Care Seeking Behavior at menopause with Medications (Mann-Whitney Test)

		N	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2-tailed)	Verbal Interpretation
Behavior	No	27	17.85	482.00	104.000	.009	Significant
	Yes	15	28.07	421.00			
	Total	42					

Table 4 shows the oral healthcare-seeking behaviors of the respondents in association with their Medications Taken using the Mann-Whitney Test, giving a p-value of *0.009*.

Because the *p-value* is less than 0.05, there is a significant difference in the awareness of oral health changes at menopause of the respondents in terms of the Medications Taken. This may be because the respondents are specifically mindful of the medications they take. Several women during menopausal years are polymedicated (are taking multiple drugs). So, this, in turn, can lead to oral dryness, tooth decay, and other complications like taste alterations, soreness, and irregular bleeding may lead them to seek oral health care. (Hill, 2021).

The study has produced a mix of results for the significant difference in terms of Demographic profile, considering the age, income, occupation, educational attainment, medical condition, and medications taken. Based on the age, income, occupation, educational attainment, and medical condition, there is no significant difference which indicates the study has failed to reject the null hypothesis; however, it rejects the null hypothesis in terms of medications taken.

### Correlation of Awareness level on Oral Changes that occur at menopause and the Oral Health Care Seeking Behavior of the respondents

Table 5: Correlation of Awareness level on Oral Changes that occur at menopause and the Oral Health Care Seeking Behavior

<i>Descriptive Statistics</i>	Mean	SD	N
Total Awareness	6.8333.	2.76667.	42
Behavior	3.4262	.46699	42

  

<i>Correlations</i>			
		Total Awareness	Behavior
Total Awareness	Pearson Correlation	1	.273
	Sig. (2-tailed)		.080
	N	42	42
Behavior	Pearson Correlation	.273	1
	Sig. (2-tailed)	.080	
	N	42	42

In the latter part of this study, the results indicated that the participants have an *average level of awareness* and have *good* oral healthcare-seeking behavior. According to Cohen (1992), the effect size is small if the r-value lies between 0.1 and 0.29. When it comes to the awareness of oral health changes at menopause associated with oral healthcare-seeking behavior, the study revealed a *low positive non-significant* relationship between awareness and the behaviors ( $r = .273$ ,  $p = 0.08$ ) as shown in Table 5 above. This implies that there is a stronger relationship between the awareness of oral health changes that occur at menopause and the oral healthcare-seeking behavior of the respondents. However, it is statistically not significant, indicating that the low positive relationship between awareness and behaviors in this study happened by chance.

This result is contrary to Arifa (2015) and Shah (2015), who discovered that one of the major factors preventing women from seeking health care services is a lack of knowledge. Indicating that there is a significant relationship between knowledge and healthcare-seeking behavior.

## CONCLUSIONS

The following results were collected based on the analysis and interpretation of the data that was brought about from the study.

The study had 42 respondents. The overall awareness level of the participants in this study had a mean score of 4.83. This value is interpreted as an average awareness level. The 10th and 11th items have the highest percentage of correct answers with a percentage of 100%. The items stated that it is important to maintain a well-balanced diet during menopause, and it is especially important to practice good Oral Hygiene during menopause. On the other hand, the women showed a relatively *low level* of awareness on the questions stated as bad breath can be a result of menopause with a percentage of 16.7% of correct answers.

A mean score of 3.4262 (SD 0.46699) was gathered for the oral healthcare-seeking behavior of the respondents at menopause. The results were interpreted as *good*. The most common tooth cleaning materials they use is toothbrush and toothpaste. The item with the lowest score was how often does your time availability affect you from visiting the dentist with verbal interpretation as *fair*.

The awareness on oral health changes at menopause of the respondents when associated with their demographic profile showed no significant difference in terms of their age (p-value= 0.175), income (p-value = 0.082), occupation (p-value = 0.280), educational attainment (p-value = 0.683), medical condition (p-value = 0.662) and medications (p-value = 0.283). Since the p values are greater than 0.05 it indicates that their association is *not significant*.

The oral healthcare-seeking behavior of the respondents in association with the demographic profile showed a p-value for age (0.85), income (0.332), occupation (0.817), educational attainment (0.906), medical condition (0.203), medications (0.03). Thus, because the p-value, when grouped in terms of these determinants, is greater than 0.05, therefore, there is *no significant* difference. On the other hand, when in terms of medications taken, a p-value of 0.009 was given. Therefore, the association is *significant*.

The awareness level on oral changes that occurs at menopause and oral healthcare-seeking behavior at menopause reviewed a low positive *non-significant* relationship ( $r= 0.273$   $p= 0.08$ ). These values show that there is no significant relationship existing between the awareness level and the oral healthcare-seeking behaviors indicated by the p-value of 0.08, which, apparently, is higher than the level of significance.

The following conclusions are derived based on the results: The respondents have shown an *average* level of awareness of oral health changes that occur at menopause and *good* oral healthcare-seeking behavior. Even though the level of awareness is *average*, many of the respondents do not know or lack general awareness of the multiple oral health changes that occur at this period of time. It is very important for these women to know these changes as it will help them be more self-conscious. The women also showed *good* oral healthcare-seeking behavior at menopause, but they are still lacking since they have not achieved excellent oral healthcare-seeking behavior.



The researchers discovered a *low positive non-significant* relationship between awareness and behavior. This proves that there is a stronger relationship between awareness and behavior as both variables are directly proportional to each other.

Nonetheless, it is important that the menopausal women in the community have a high awareness level on the Oral health changes that occur at menopause in order to develop a better Oral Health care-seeking behavior.

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