

# Oral Cancer Incidence Disparity Among Ethnic Groups on Guam

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## Abstract:

*Although the prevalence of betel nut use among Chamorro residents of Guam is higher than that of other Micronesians residing on the island, the "other Micronesian" ethnic groups have a mouth cancer incidence rate more than double that of Chamorros. The reason for this apparent disparity in rates of mouth cancer incidence may be clarified by future studies focused on the frequency and method of betel nut use among these populations. Another possible explanation for this apparent disparity in cancer incidence rates could be that of migration to Guam for medical treatment. (PHD, 2005 Vol 12 No 1 Pages 153 - 154)*

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use<sup>(4)</sup>. Most subjects of these studies were Chamorro as the studies were conducted before the advent of mass migration of Federated States of Micronesia (FSM) citizens to Guam following the Compact of Free Association and before the advent of the Guam Cancer Registry (GCR).

## Methods

All cases of mouth cancer (ICD10 C00.0 – C06.9) collected by the GCR for the years 1997-2003 were identified and the crude and age-adjusted incidence rates were calculated by ethnic group.

## Results

There was substantial variation in the incidence of mouth cancer between ethnic groups living on Guam with Micronesians having rates more than 100% greater than Chamorros and 300% greater than Whites (Table 1).

## Discussion

It is suspected that the differences in the incidence of mouth cancer rates observed among the ethnic groups represented on Guam may be related to differences in the frequency or manner of betel nut use. However, an earlier health risk factor study of Guam residents showed that betel nut use was more common among Chamorros (48%) than among other Micronesians (37.5%) or Whites (18.6%)<sup>(5)</sup>. Future studies should investigate the frequency of betel nut use among these ethnic groups as well as differences in the ingredients that may be chewed with betel nut. The possibility that Micronesians may migrate to Guam for medical treatment must also be considered. The future establishment of cancer registries in each district of Micronesia should facilitate the search for answers to these and other questions regarding the incidence and etiology of cancer in this region of the Pacific.

## Introduction

The fruit of the Areca palm (*Areca catechu* L.), commonly known as betel nut, is chewed alone or with various ingredients (including, most commonly, slaked lime powder derived from coral, the leaf of the Piper betel vine, and tobacco) throughout the islands of Micronesia and many other areas of Asia and the Pacific.

Reports of previous studies on Guam have suggested that there was little or no risk of cancer as a result of betel nut use<sup>(1-3)</sup>, or that the risk of cancer associated with betel nut use was equivalent to that of tobacco

**Table 1. Guam mouth cancer (ICD10 00.0 - 06.9) crude and age-adjusted incidence rates<sup>1</sup> by ethnicity for the period 1997 - 2003**

Rate adjustment standard	Chamorro	Filipino	Micronesian	Asian	White
Unadjusted (crude) rate	4.74	1.64	5.16	1.40	4.08
WHO standard	5.80	1.26	11.26	2.24	5.02
USA 1970 standard	8.68	3.02	19.96	4.17	5.30
USA 2000 standard	8.11	2.28	17.90	3.57	5.47

<sup>1</sup> Average annual number of cases per 100,000 population

## References

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If you don't know where you are going, you will probably  
end up somewhere else  
(Dr. Laurence Peter - 1919)