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Knowledge and Attitudes of Guam Residents Towards Cancer Clinical Trial Participation

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ABSTRACT

Purpose/Background: Currently there are no cancer clinical trials conducted in Guam, but interest is growing. Limited information exists on the knowledge and attitudes of Guam's population towards cancer clinical research, yet cancer is the second highest cause of death in Guam and among the CHamoru people, Guam's indigenous population. CHamoru people suffer the highest rates of cancer mortality compared to other ethnic groups in Guam. The purpose of this study was to determine differences in knowledge and attitudes towards cancer clinical trials participation, and attitudes towards traditional medicine.

Materials & Methods: A telephone survey instrument was designed, pilot-tested, IRB-approved, and implemented using a third-party marketing company. Questions were adapted from existing surveys and new questions were developed to address unique, Guam-specific interests. Recruited subjects were Guam residents adults 18 years of age and older with telephone service. Guam residents were called from October 6 to 10, 2018 to assess levels of knowledge and attitudes towards cancer clinical trials and the attitudes towards using traditional medicine to treat cancer. Descriptive statistics were computed for demographic variables by response category. Univariate logistic regression was conducted to investigate the bivariate association between a survey question and demographic variables. Odds ratios (ORs) and associated 95% confidence intervals (CIs) were calculated. Multivariable logistic regression model was developed for each question, adjusting for important covariates. Hosmer-Lemeshow tests and c-statistics were used to evaluate goodness of fit.

Results: The survey respondents' (n=152) demographic data closely reflected the US Census ethnicity data for Guam: CHamoru (47.0%), Filipino (26.5%), Caucasian (11.3%) and Other (15.2%). Fifty-three percent understood the term "clinical trial"; 73.7% would be willing to participate if they had cancer, and 59.9% believed they would receive good quality treatment from

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a clinical trial offered in Guam. Approximately 56.0% thought they would have to pay out-of-pocket expenses; and 67.0% disagreed or were not sure that clinical trial sponsors pay for the study drug while other costs are billed to the insurance company. Physician ethnicity was not important to 100% of Caucasians, but was important to at least 30.0% of non-Caucasians; family support was very important to 94.7% of respondents, while religious community support was important to 55.4%. Approximately 65.1% did not believe that people participating in clinical trials were treated like 'guinea pigs'. Having college education (OR = 3.26; 95% CI: 1.53 – 6.98) and knowing English language well (OR=5.86; 95% CI: 1.21 – 28.38) were significantly associated with higher aggregated knowledge about clinical trials. Although the majority (67.2%) would seek traditional healing practices if diagnosed with cancer, most (84.9%) did not think a suruhano (CHamoru traditional healer) could treat cancer, and 94.7% did not believe cancer was caused by taotaomo'na (ancient spirits).

Discussion/Conclusion: Knowledge and attitudes towards cancer clinical trials and the use of traditional medicine to treat cancer were significantly associated with key demographic variables including ethnicity, income, employment status, place of birth and insurance type. Knowledge about cancer clinical trials was as expected: more participants who are Caucasian, have a higher level of education, were born in U.S., are employed, have a higher income, private insurance, self-report that they speak English well, and do not follow religion, were more aware of what a clinical trial is than the other respondents. Though knowledge about cancer clinical trials is limited, attitudes towards participation in cancer clinical trials offered in Guam were largely positive.

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Table 1/ Descriptive and Logistic Regression Analysis for Aggregated Knowledge about Clinical Trials

Variable	Column A		Column B	Column C
	n (%)		OR (95% CI)	
	No/Not Sure 71 (46.71%)	Yes 81 (53.29%)	Univariable	Multivariable
Age, Mean ± SD	51.2 ± 15.1 (18-78)	48.3 ± 14.6 (21-73)	0.99 (0.97-1.01)	
Gender				
Male	36 (50.7%)	35 (49.3%)	Ref	
Female	35 (43.2%)	46 (56.8%)	1.35 (0.71-2.56)	
Ethnicity				
Caucasian	2 (11.8%)	15 (88.2%)	Ref	
CHamoru	34 (47.9%)	37 (52.1%)	0.15 (0.03-0.68)*	
Filipino	25 (62.5%)	15 (37.5%)	0.08 (0.02-0.40)**	
Other	9 (39.1%)	14 (60.9%)	0.21 (0.04-1.13)	
Marital Status				
Married or living as married	40 (43.5%)	52 (56.5%)	Ref	
Single	20 (51.3%)	19 (48.7%)	0.73 (0.34-1.55)	
Divorced/widowed	9 (47.4%)	10 (52.6%)	0.85 (0.32-2.30)	
Education				
≤High school graduate	34 (64.2%)	19 (35.9%)	Ref	Ref
Some college or technical school	11 (47.8%)	12 (52.2%)	1.95 (0.72-5.27)	1.84 (0.67-5.08)
≥College graduate	24 (32.9%)	49 (67.1%)	3.65 (1.74-7.69)**	3.26 (1.53-6.98)**
Personal Income				
Less than \$50,000	38 (52.1%)	35 (47.9%)	Ref	
\$50,000 or more	21 (33.9%)	41 (66.1%)	2.12 (1.05-4.26)*	
Refused	12 (70.6%)	5 (29.4%)	0.45 (0.14-1.41)	
Born Country				
USA	8 (30.8%)	18 (69.2%)	Ref	
Guam	31 (41.3%)	44 (58.7%)	0.63 (0.24-1.63)	
Philippines	21 (65.6%)	11 (34.4%)	0.23 (0.08-0.70)*	
Other	8 (50.0%)	8 (50.0%)	0.44 (0.12-1.61)	
Employment Status				
Employed full time or part-time	37 (39.4%)	57 (60.6%)	Ref	
Retired	11 (42.3%)	15 (57.7%)	0.89 (0.37-2.14)	
Unemployed/student/homemaker/unable to work	21 (70.0%)	9 (30.0%)	0.28 (0.12-0.67)**	
English Fluency				
Not well	11 (84.6%)	2 (15.4%)	Ref	Ref
Well	58 (42.3%)	79 (57.7%)	7.49 (1.60-35.10)*	5.86 (1.21-28.38)*
Speaking Other Language				
No	13 (29.6%)	31 (70.5%)	Ref	
Yes	56 (52.8%)	50 (47.2%)	0.37 (0.18-0.79)*	
Insurance				
Private	31 (36.1%)	55 (64.9%)	Ref	
Public (Medicare, Medicaid, military)	20 (50.0%)	20 (50.0%)	0.56 (0.26-1.21)	
No insurance	13 (68.4%)	6 (31.6%)	0.26 (0.09-0.75)*	
Religion				
No/not sure	8 (27.6%)	21 (72.4%)	Ref	
Yes	63 (51.2%)	60 (48.8%)	0.36 (0.15-0.88)*	

OR = Odds Ratio. CI = Confidence Interval. Ref = Reference.
 *p-value<0.05; **p-value<0.01; ***p-value<0.001. Row percentage was presented.

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