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# Help seeking behavior and predictors of patient delay after symptom appraisal for oral cancer and perceived barriers



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#### ABSTRACT

Objective: The aim of this study was to assess the help seeking behavior and factors predictive of delayed approach to health care professional after symptom appraisal for oral cancer. It also intended to determine the barriers which might contribute to delayed presentation of symptomatic subjects to the clinician. *Method:* A total of 1635 persons participated in the study. Respondents recording symptom appraisal (226) were then further questioned about their help seeking behavior and barriers to help seeking. Logistic regression analysis was applied to estimate odds ratio (OR) and 95% confidence interval (CI) for delay or no delay in seeking help.

Results: An overall delay in the help seeking behavior was observed; 65.5% of the total participants were likely to delay help seeking after symptom appraisal. A significant difference in help seeking behavior was seen among individuals with more symptom knowledge having a mean score of 1.41 (SD = 0.49) in comparison to those having lesser knowledge (mean =  $1.29 \pm 0.45$ ).

Logistic regression analysis revealed 'knowledge of symptoms for oral cancer' as the only significant independent predictor of delay, contributing alone to 17% ( $R^2 = 0.17$ ) of the variance in predicting delay. Additionally among the different barriers, indifference toward their symptoms was the most important factor (54.43%) for delay in help seeking.

Conclusion: The results of this study show that increased symptom knowledge for oral cancer may decrease patient delay after symptoms appraisal. Recognizing barriers for delayed presentation of the symptomatic subjects to the clinician should be an important aim for improving oral cancer prognosis.

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#### 1. Introduction

Delay in the diagnosis of oral cancer has been classified into 'patient delay and professional delay'. Patient delay is defined as the time between the patient's recognition of symptoms to the first medical contact. Patient-related delay is usually the longest

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varying from 19 to 90 days [1]. This delay can be further subdivided into four stages according to Andersen's model of Total Patient Delay consisting of 'appraisal delay' which is the time from the individual detecting the symptom to realizing that it requires medical attention. The second stage 'illness delay' is the number of days elapsing from the time an individual infers his illness to the day he/she decides to seek medical help. The period between the decision to seek medical attention and the person acting on this decision by making an appointment is 'behavioral delay' and the time elapsed between the person making an appointment and first receiving medical attention is 'scheduling delay'. Anderson and Cacioppo in their study concluded that among the various patient delay factors, appraisal delay accounted for significantly more of the total patient delay than any other component [2].

<sup>☆</sup> Asian AOMS: Asian Association of Oral and Maxillofacial Surgeons; ASOMP: Asian Society of Oral and Maxillofacial Pathology; JSOP: Japanese Society of Oral Pathology; JSOMS: Japanese Society of Oral and Maxillofacial Surgeons; JSOM: Japanese Society of Oral Medicine; JAMI: Japanese Academy of Maxillofacial Implants.

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In oral cancer cases approximately 30% of patients wait for more than three months after symptom appraisal to seek help from a health care professional; this delay after symptom appraisal is an important determinant of prognosis and results in decreased survival rates [3]. Detecting oral cancer at an early stage is the most effective means of improving survival and reducing morbidity from the disease [4].

Against this backdrop, the study plans to assess the variations among individual approach to health care professional and barriers to help seeking in case of symptom appraisal for oral cancer.

The present study intends to

- 1. Assess the help seeking behavior of individuals experiencing symptoms related to oral cancer.
- Find factors predictive of delay to help seeking after selfidentification of oral cancer symptoms.
- 3. Attempt to determine the barriers to seeking advice from health care professional.

#### 2. Method

#### 2.1. Sample

In the year 2012, a study was conducted on the general public belonging to different segments of society in rural/urban Gorakhpur district, one of the high-risk areas of eastern U.P (India) where the use of tobacco is very popular. Stratified random sampling technique was used to collect data. Consent was taken from the selected participants after explaining the nature of the study. A total of 1635 persons participated in the study. Individuals diagnosed with oral cancer at any point of their lifetime were excluded from this study. The study procedure was approved by the ethical committee of the institutional review board.

#### 2.2. Measuring tool

The inclusion criteria for further interview included symptom appraisal for oral cancer within last 12 months. Symptom experience was recorded by asking 'have you experienced any symptom in the last twelve months that you thought may be oral cancer'. (Respondents were not provided any information regarding oral cancer signs/symptoms.) Responses were recorded as 'Yes' or 'No'. Further the help seeking behavior in case of symptom experience as perceived by the respondents was also recorded by asking 'How soon did you visit your doctor after finding a suspicious symptom in your mouth?' Response categories were 'no delay' (within 3 weeks), 'delay' (more than 3 weeks/did not seek help). A primary delay was considered if the respondent took more than three weeks to seek help after noticing a suspicious symptom. Delay in help seeking was coded as 1 and no delay as 2.

To determine the barriers to help seeking; respondents showing delay or unwilling to seek medical advice were further questioned 'Why were/are you unwilling to seek medical advice? Responses included 'Don't think important' (respondents feeling their symptom was transient or minor, they may waste the doctors time), 'Cost' of consultation/treatment, 'Fear' apprehension regarding the consultation, 'Access problem' the distance needed to travel, the perceived hassle of visiting an health care professional, and 'lack of time' (respondents having competing responsibilities). The respondents were expected to mark only the most appropriate one.

Knowledge of symptoms of oral cancer were assessed via seven closed ended questions (pain; red/white patch; non healing ulcer; swelling; sore throat; difficulty in moving tongue/jaw; numbness)

where scoring was done with one mark for each correct answer. Respondents' scoring 3 or less were grouped as having 'less knowledge' and those scoring 4 or above were grouped under 'adequate knowledge'.

Socio-demographic information was also recorded. Education of respondent was categorized in two sections, 'Up to High school' group (formal education up to 12th grade or less) and 'Further education' group (formal education beyond 12th grade).

Responses were subjected to statistical analysis (SPSS) in terms of mean  $\pm$  SD, t test or analysis of variance. Logistic regression was done to obtain odds ratios (OR) and confidence interval (95% CI). Independent variables included gender, age, education, residence environment (urban, rural) and knowledge scores whereas delay/no delay was the outcome variable.

#### 3. Results

#### 3.1. Sample characteristics and description of patient delay

Out of the 1635 respondents, 226 (13.8%) reported noticing lesions in oral cavity in last twelve-month period which they suspected may be symptoms related to oral cancer. Of those respondents experiencing symptoms 19.0% were female and 81.0% male, 55.3% were from urban environment whereas 44.7% from rural background. Education wise 14.2% belonged to 'Up to High school' group, and 85.8% to 'Further education' group.

The help seeking behavior and barriers to help seeking were assessed for only those respondents experiencing symptoms. Respondents' help seeking behavior was assessed and treated statistically in terms of mean and SD (as a function of age, gender, education, residence and knowledge score of oral cancer symptoms). 34.5% of the individuals reporting symptom experience did not delay help seeking; whereas delayed help seeking was observed in 65.5% of the respondents. Although females showed a higher positive tendency for help seeking with a mean of 1.37 (SD = 0.49) than males (mean =  $1.34 \pm 0.48$ ), the difference was not significant. Similarly there was no significant age, education and residence environment difference for delay in help seeking (P>.05) (Table I). Individuals with more symptom knowledge had a higher mean score (1.41  $\pm$  0.49) in comparison to those having lesser knowledge  $(1.29 \pm 0.454)$  with the difference being statistically significant (F=3.96, P=.048) for their help seeking behavior.

**Table I**Mean and SD of help seeking behavior by age, gender, residence, education and knowledge score.

Variable	$Mean \pm SD$	F value
Age		
15–24 yr	$1.34 \pm 0.48$	0.561
25–39 yr	$1.35 \pm 0.48$	
40–59 yr	$1.27\pm0.45$	
60 above	$1.48 \pm 0.51$	
Sex		
Male	$1.34 \pm 0.48$	0.169
Female	$1.37 \pm 0.49$	
Residence		
Urban	$1.34 \pm 0.48$	0.002
Rural	$1.35 \pm 0.48$	
Education		
Up to high school	$1.31 \pm 0.47$	0.174
Further education	$1.35 \pm 0.48$	
Knowledge score		
3 or less	$1.29 \pm 0.45$	3.960*
4 or more	$1.41 \pm 0.49$	

<sup>\*</sup> P<.05

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