

ASSESSMENT OF NUTRITIONAL RISK OF RURAL PATIENTS SUFFERING FROM ORAL CANCER

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ABSTRACT

Oral cancer is one of the most common cancers in India. Data suggest strong relationship between malnutrition and shortened survival also poor nutritional status is strongly linked with poor outcome of malignant disease and poor tolerance of therapies. This study was conducted to evaluate nutritional status of rural patients' which would be helpful to plan the treatment and rehabilitation program for patients depending on their needs. This study was taken up with the objective to assess the Nutritional Profile of Rural Patients suffering from oral cancer. The present study was conducted on 108 patients of age group 25-70 years, at A Cancer Hospital in Jaipur. The study included cooperative, adult diagnosed with oral cancer (non metastatic) with rural background and with no other co-morbidity. After taking written consent a pre-tested, pre-coded questionnaire was used to collect background information like age, education, income, occupation and anthropometric data like weight, height. MUST is used to identify nutritional at risk patients. The data shows that the literacy rates were low with 30% subjects being illiterate. Most of the subjects were unskilled workers and about 18.5% of subjects were not working/unemployed. With lower literacy rates and poor occupational background is also reflecting in socio economic status of the subjects, about 60% of patients had monthly income less than 5000 Rs./month. A substantially large number of patients show weight loss 68.6% which is also reflected in MUST score. This study is an effort to evaluate the extent of problem on basis of which further treatment plans should be focused upon.

Keywords: *Oral Cancer, Nutritional Status, Rural Patients*

INTRODUCTION

Oral cancer is one of the most common cancers affecting males in India. Data suggest strong relationship between malnutrition and shortened survival, also poor nutritional status is strongly linked with poor outcome of malignant disease and poor tolerance of therapies. Under-nutrition is more prevalent in rural areas, again mainly due to low socio-economic status. In urban areas, overweight status and obesity are over three times as high as rural areas (NFHS-3 India, 2005-06). As the data shows the general rural population is at risk of under nutrition so the patients from such population are at higher risk of malnutrition.

Older rural participants had significantly lower educational level, less adequate income, higher medication use, lower scores on self-rated health status and researcher-rated health status and lower self-rated healthy eating status than their urban counterparts. Moreover, rural participants had significantly lower nutritional self-efficacy, higher chance health locus of control and poorer nutritional status than their urban counterparts (Chen *et al.*, 2015).

Data shows that most rural population is vulnerable to a higher incidence of modern chronic disease because they are older, poorer and less educated (Wright *et al.*, 1985). As per Shugarman *et al.*, (2008), findings of study are consistent with many other research documenting health disparities among rural cancer patients, such as decreased access to specialty doctors, limited availability of formal support systems, and gaps in the medical care infrastructures. As per data there appears to be high levels of malnutrition in the population of patients attending cancer treatments (Creaser, 2010). A similar kind of study to assess the nutritional status of rural patients suffering from tuberculosis shows that a majority of patients had evidence of chronic severe under-nutrition at diagnosis, which persisted even after successful treatment in a significant proportion of them (Bhargava *et al.*, 2013)

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Objective

To assess the Nutritional risk of Rural Patients suffering from oral cancer, attending a charity trust cancer hospital in Jaipur city.

MATERIALS AND METHODS

Methodology

The present study was conducted to assess nutritional risk of rural patients suffering from oral cancer in Jaipur (Rajasthan). It is an independent study, carried out at Cancer Hospital in Jaipur. This hospital was chosen as it is a charitable hospital and gives financial help to poor Patients. It is one of the biggest cancer hospital in this region, so the patients from smaller cities and rural areas came for better treatment facilities.

A total of 108 subjects were selected for study. Purposive Sampling was used to identify a population of interest (oral cancer patients) and developing a systematic way of selecting cases that is not based on advanced knowledge of how the outcomes would appear. The purpose was to increase credibility not to foster representativeness.

Sampling Criteria - In order to obtain homogenous samples selection was done on following criteria.

Inclusion criteria:

- a) Patients with oral cancers were selected in the study.
- b) Those patients who were cooperative and willing to provide necessary information were included in the study.
- c) Age group was 25-70 years.
- d) Patients whose medical records were available.

Exclusion criteria:

- a) Patients suffering from chronic metabolic disorders/ co-morbidity.
- b) Patients with metastasis.
- c) Patients in palliative care.
- d) Patients who were not willing to give consent i.e. not willing to share details.

MUST (Malnutrition Universal Screening Tool) was used to identify at risk patients. MUST is designed to detect protein-energy malnutrition as well as those individual at risk of developing malnutrition by using three independent criteria: current weight status, unintentional weight loss and acute disease effect.

RESULTS AND DISCUSSION

In present study 108 patients were selected. Most of them were Hindu and 30% of patients were uneducated and about 82% patients were undergraduate (figure 1). The lower rate of literacy could be a barrier in effective treatment also. Martinez-Donate (2013), study uncovered multiple unmet navigation needs and health literacy barriers to quality cancer care among rural cancer patients. Implementation of patient navigation programs and adoption of health literacy best practices among systems and providers could contribute to improved cancer care delivery and cancer-related outcomes among rural populations. The occupational background information showed that a large number of patients were from lower income work profile (farmer/labour/worker) or unemployed / not working (sum up for both the categories is 57%). If we draw a parallel data of educational background with occupation this sums up to the fact that most of the subjects were not well educated and were into unskilled occupation.

When the data was further evaluated and compared with the income of patients it was observed that about 60% of the subjects from rural setting are from lower socio economic background (having monthly income less than 5000). A research on gastric cancer patient also suggested that most of the patients had poor quality of life and the rural patients had lower quality of life than those of urban patients and there were three aspects of factors, including the disease conditions, the social-economic status and rehabilitation status, influencing the quality of life of the stomach cancer patients (Jun *et al.*, 2004). Shugarman *et al.*, (2008), found that both individual (Medicaid coverage) and regional (lower census tract-level median income) SES factors were associated with a higher risk of mortality.

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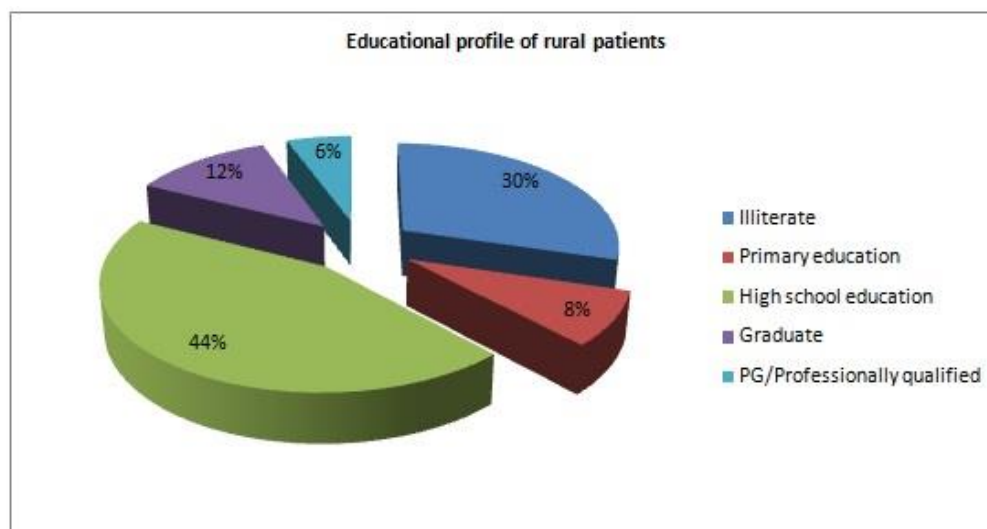


Figure 1: Educational Profile of Rural Patients

When patients were evaluated on the basis of BMI it was observed that about 27% of the patients were underweight and 56% of patients were falling in normal ranges and rest 17% were overweight and obese. Patients when evaluated on the basis of risk of malnutrition (using MUST tool) about 65.4% of patients were at medium to high risk of malnutrition (table 1). In a similar study by [Mittal *et al.*, \(2015\)](#) shows, the patients included in the study had otherwise better nutritional status when compared with cancer patients (having metastatic disease or palliative intent patients). Despite the above fact a substantial number of cancer patients were found to be considerably malnourished though dissimilar values were obtained by various methods of assessment tools.

Table 1: MUST Scores of Rural Patients

MUST Scores	Rural	Urban	Chi Square (p-Value)
Low risk '0'	36 (34.6)	23 (38.3)	1.543 (0.462)NS
Medium Risk '1'	26 (25.0)	10 (16.7)	
High Risk '2' or more	42 (40.4)	27 (45.0)	

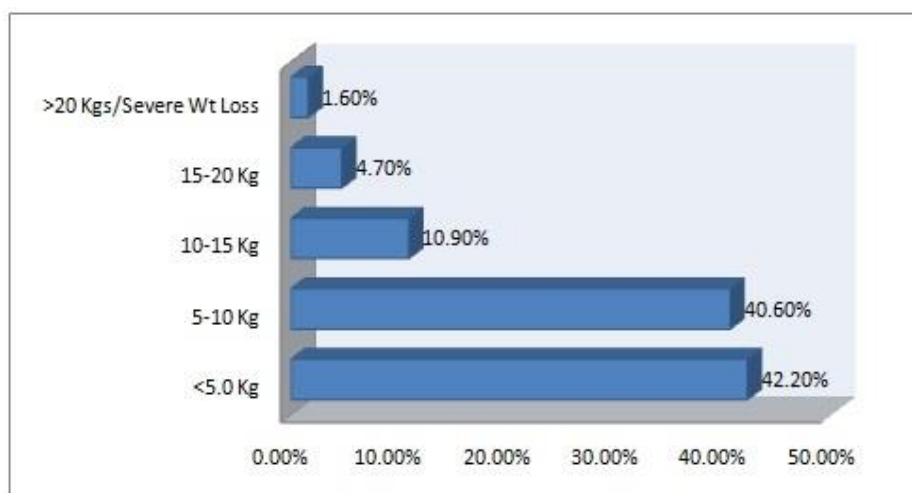


Figure 2: Weight Loss in Rural Patients

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The reason for such a large number of patients in at risk group is weight loss (Figure 2). About 69% of patients reported weight loss and 42 % of patients had weight loss within 5 kg and a substantial number of patients reported to have weight loss of 5-10 kg (41%). This weight loss is multi factorial it's because of disease or treatment related side effects and to add on to those problems, as discussed earlier it could be results of lack of resources (finances, knowledge also unavailability of home facilities).

Conclusion

The above findings suggest immediate action to the problem of malnutrition in rural patients and also the contributing factors like financial constraints, educational background and unavailability of resources. The treatment plan should consider these factors and plan different patient module keeping in mind the present predicament for better outcome of treatment. Patients at nutritional risk should be promptly referred for comprehensive nutritional assessment and support to clinical nutrition services or medical personnel with documented skills in clinical nutrition, specifically for cancer patients. Nutritional intervention should be actively managed and targeted for each patient; it should comprise personalized dietary counseling and/or artificial nutrition according to spontaneous food intake, tolerance and effectiveness (Caccialanza *et al.*, 2016).

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