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I, (Dr. Anshika Arora), declare that the thesis entitled “Prognostic Significance Of Nutrition And Immunity In Head And Neck Cancer- A Prospective Observational Study.” is my own work conducted under the supervision of Prof. (Dr.) Sunil Saini at Cancer Research Institute , Swami Rama Himalayan University, Department of Surgical Oncology approved by D.R.C.

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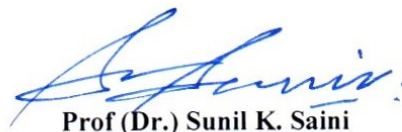
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Clearance was obtained from the University Ethics Committee for carrying out the study (SRHU/ETHICS/2018/115).



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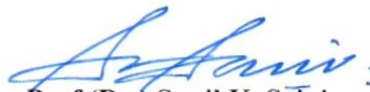
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**PROGNOSTIC SIGNIFICANCE OF
NUTRITION AND IMMUNITY IN HEAD
AND NECK CANCER- A PROSPECTIVE
OBSERVATIONAL STUDY**



**Thesis Submitted In Partial Fulfillment of The Award
of Degree of Doctor of Philosophy
In
Oncological Sciences**

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STUDY**

Submitted by

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For the degree of
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most importantly, the patients.

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List of Abbreviations

AJCC- American Joint Commission on Cancer	HNSCC- Head and Neck Squamous Cell Carcinoma
ASRs- Age-Standardized Rates	HPV- Human Papilloma Virus
BMI- body mass index	HR- Hazard Ratio
CAFs- Cancer associated fibroblasts	HRQOL- Health-Related Quality of life
CI- Confidence Interval	IBW%- Ideal Body Weight Percentage
CRI- Cancer Research Institute	ICMR - Indian Council of Medical Research
CRT- Chemo-Radiotherapy	ICMR- Indian Council for Medical Research
CSC- Cancer stem cell	IFN- γ - Interferon-gamma
DFS- Disease free survival	IL-6- Interleukin-6
DLC- Differential Leukocyte Count	IMRT- Intensity-Modulated Radiotherapy
DOI- Depth of invasion	iNOS- inducible nitric oxide synthase
DSS- Disease-specific survival	IQR- Inter-quartile Range
EAT- Eating As Treatment	LBM- Lean body mass
EBV- Epstein-Barr Virus	LND- Lymph node density
ECOG- Eastern Cooperative Oncology Group	LVI- Lympho-vascular invasion
EGFR- Epidermal growth factor receptor	MDSCs- Myeloid-derived suppressor cells
EN- Enteral nutrition	MHC-Major histocompatibility complex
ENI- Early Nutritional Intervention	MMPs- Matrix metalloproteinases
ENS- Early nutrition support	MNA- Mini Nutrition Assessment
EORTC QLQ-C30- European Organization for Research and Treatment of Cancer Quality of Life Questionnaire	MUAC- Mid Upper Arm Circumference
ESPEN- European Society for Parenteral Nutrition	MUST- Malnutrition Universal Screening Tool
<i>FailureTxCompletion</i> - failure to complete all planned treatment.	N- - Node negative
GLIM- Global Leadership Initiative on Malnutrition	N+ - Node positive
GPS- The Glasgow Prognostic Score	NF- Nuclear Factor
Hb- Hemoglobin	NG- Nasogastric
	NIS- Nutrition impact symptoms

NIS- Nutrition Impact Symptoms	SCC-Ag- Squamous cell carcinoma antigen
NK- Natural killer	SEER- Surveillance, Epidemiology, and End Results
NLR- Neutrophil/Lymphocyte ratio	SGA- Subjective Global Assessment
NLR- Neutrophil-to-lymphocyte ratio	SRHU- Swami Rama Himalayan University
ONS- Oral nutritional supplements	STAT3-Signal transducer and activator of transcription 3
OR- Odds ratio	T stage- Tumor stage
OS-Overall survival	TAA- Tumor-associated antigens
PDL1- Programmed death ligand-1	TGF β - Transforming growth factor beta
PEG- Percutaneous endoscopic gastrostomy	TILs- Tumour infiltrating lymphocytes
PFS- Progression free survival	TLC- Total Leukocyte Count
PG- Prostaglandin	TME- Tumor microenvironment
PG-SGA- Patient generated - Subjective Global Assessment	TNF- α - Tumor necrosis factor-alpha
PLR- Platelet/ Lymphocyte Ratio	TNM- Tumor node metastasis
PN- Parenteral nutrition	TRAIL- TNFrelated apoptosis inducing ligand
PNl- Peri-neural invasion	Treg- regulatory T cells
PS- Performance status	TST- Triceps skin fold thickness
QOL- Quality of life	UICC- Union for International Cancer Control
RCT- Randomized controlled trial	V/S- Versus
REE- Resting energy expenditure	VEGF- Vascular endothelial growth factor
ROS- Reactive oxygen species	WBC- White blood cell
RR- Risk Ratio	
RT- Radiotherapy	
SCC- Squamous cell carcinoma	