Holy Spirit University of Kaslik
Doctoral College

Ph.D. Thesis Proposal[1]

General Information		
Ph.D. Thesis Title	***Development and validation of a nutrition assessment tool in Lebanon to screen and diagnose staging of pre-cachexia and cachexia, and to provide better quality of life during treatement and management of the disease.***	
USEK Doctoral Program	Sciences de la Vie et de la Terre	
Research Center	NA	
Research Group	NA	
Research Axis		
Ph.D. Supervisor	Name & Title : Julien Sophie , Associate Professor Email : sophiejulien@usek.edu.lb	University Address : Holy Spirit University of Kaslik- USEK , Faculty of Arts, Humanities and Sciences
M.D. Co-supervisor (if applicable)	Name & Title : Marcel Massoud, Associate Professor Email : marcelmassoud@usek.edu.lb	University Address : Holy Spirit University of Kaslik- USEK, Faculty of Medical Sciences
Location (s)	Location 1: USEK	Work shift calendar /per year (%): 50
	Location 2: (if applicable) CHU-NDS	Work shift calendar /per year (%): 50
Potential funding and scholarship	AUF	

Applicant Profile and/or Special Requirements	- Master in Clinical Nutrition - Strong experience with the Nutritional Care Process in hospital care. - Possess advanced SPSS and Excel skills - Dynamic and proactive approach in carrying clinical settings responsibilities - Autonomy in carrying collection and analysis of the data. - Previous peer-reviewed publication will be considered as a advantage - Strong English language skills
Comps Exam Language (to be check-marked by the Ph.D. Supervisor)	☑ Oral Assessment ☐ Written Assessment ☐ Arabic ☐ French ☑ English

Subject's national or worldwide Context, Objectives & Research lines

[1] The Ph.D. Thesis Proposal should not exceed three pages.

Cancer is a progressive disease with common features of malnutrition and body lean mass wasting leading to impaired function, decreased quality of life and increased mortality, a syndrome known as cancer cachexia. This life threatening conditions is a multifactorial illness outlined by severe muscle and fat loss due to increased catabolic activity, chronic inflammation and increased energy expenditure not readily reversible. Hence cachexia may alter the outcome of patient treatment and decrease the response to medications. Although various malnutrition screening tools are already available in clinical care, there is no consensus on a standardized screening protocol for malnutrition associated with the different stages of cachexia as diagnostic can be misled from sarcopenia, an age-related condition of muscle wasting in older cancer patients. To reach optimal nutritional care during cancer, several protocols have been suggested but still remained inconclusive while others led to contradictory results highlighting the need to further develop specific strategies to screen, assess and score cachexia stages.
Until today, Lebanon lacks a definitive effective screening tool for cachexia, provoking an arising medical issue negatively affecting treatment outcomes, quality of life and life expectancy shedding light on the necessity for the development of such a tool. Because CT imaging is routinely used to monitor cancer throughout line therapy journey, it could be exploited to assess and follow loss of lean body mass along with functional test, anthropometrics and biochemical data to manage nutritional status in cancer patients though improving clinical outcomes.

The **main goal** of this research project is to contribute in the improvement of quality of life and life expectancy of cancer patient suffering cachexia in Lebanon. To reach this goal, this research project will focus on **3 main objectives**:

1. To establish an affordable and accurate nutritional screening and assessment protocol to identify malnutrition in cancer patient.
2. To develop and to validate of a CT-scan imaging based tool to screen and diagnose cachexia stages
3. To develop an assessment tool that encompasses functional and image-based strategies for a comprehensive, accurate and reliable nutritional assessment of staging cachexia.

The most imprtant impact of the outcome of this research project would be the standardization of functional and anthropometrics measurements, thorough diagnosis through imaging-based tool and reliable monitoring and follow-up of the nutritional status in cancer patients within different clinical settings.

Outcomes (OCs) : What do we wish to achieve?	
OC1:	Measure reliability a CT-scan imaging based tool to screen and diagnose cachexia stages
O23 :	Establish systematic routine functional tests, anthropometrics and nutritional status measurements in clinical care along with CT-scan imaging based tools to classify cachexia stage
OC3:	Measure the effectiveness of early detection of cachexia through combination of nutritional assessment along with image-based assessments on the quality of life of cancer patient and life expectancy.

References (R) (5 most recent peer-reviewed publications in the field)	
R1:	Nguyen LT et al. (2021) Nutrition intervention is beneficial to the quality of life of patients with gastrointestinal cancer undergoing chemotherapy in Vietnam. *Cancer Medicine*, 10:1668–1680. https://doi:10.1002/cam4.3766

R2:	Dev R. (2019) Measuring cachexia-diagnostic criteria. *Annals of Palliative Medicine*, 8(1):24-32. 8(1):24-32. https://doi.org/10.21037/apm.2018.08.07
R3 :	Baracos VE et al. (2018) Cancer cachexia is defined by an ongoing loss of skeletal muscle mass. *Ann Palliat Med* 2019;8(1):3-12. https:// doi: 10.21037/apm.2018.12.01
R4:	Castillo-Martinez L et al. (2018). Nutritional assessment tool for the identification of malnutrition and nutrition risk associated with cancer treatment. *Clinical and Translational Investigation*, 70:121-5. https://doi: 10.24875/RIC.18002524
R5:	Fearon, K. C., Voss, A. C., & Hustead, D. S. (2006). Definition of cancer cachexia: effect of weight loss, reduced food intake, and systemic inflammation on functional status and prognosis. *The American Journal of Clinical Nutrition*, 83(6), 1345–1350. https://doi.org/10.1093/ajcn/83.6.1345