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Posters

FSS-ICU Scores Differ Across Hospital Dispositions in a Surgical Patient Population

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FSS-ICU Scores Differ Across Hospital Dispositions in a Surgical Patient Population Michael Pechulis, PT, DPT,¹ Emily Chandler, SPT,² Morgan Dianis, SPT,² Kyle Leonard, SPT,² Julie M. Skrzat, PT, DPT, PhD, CCS^{1,2}

Introduction

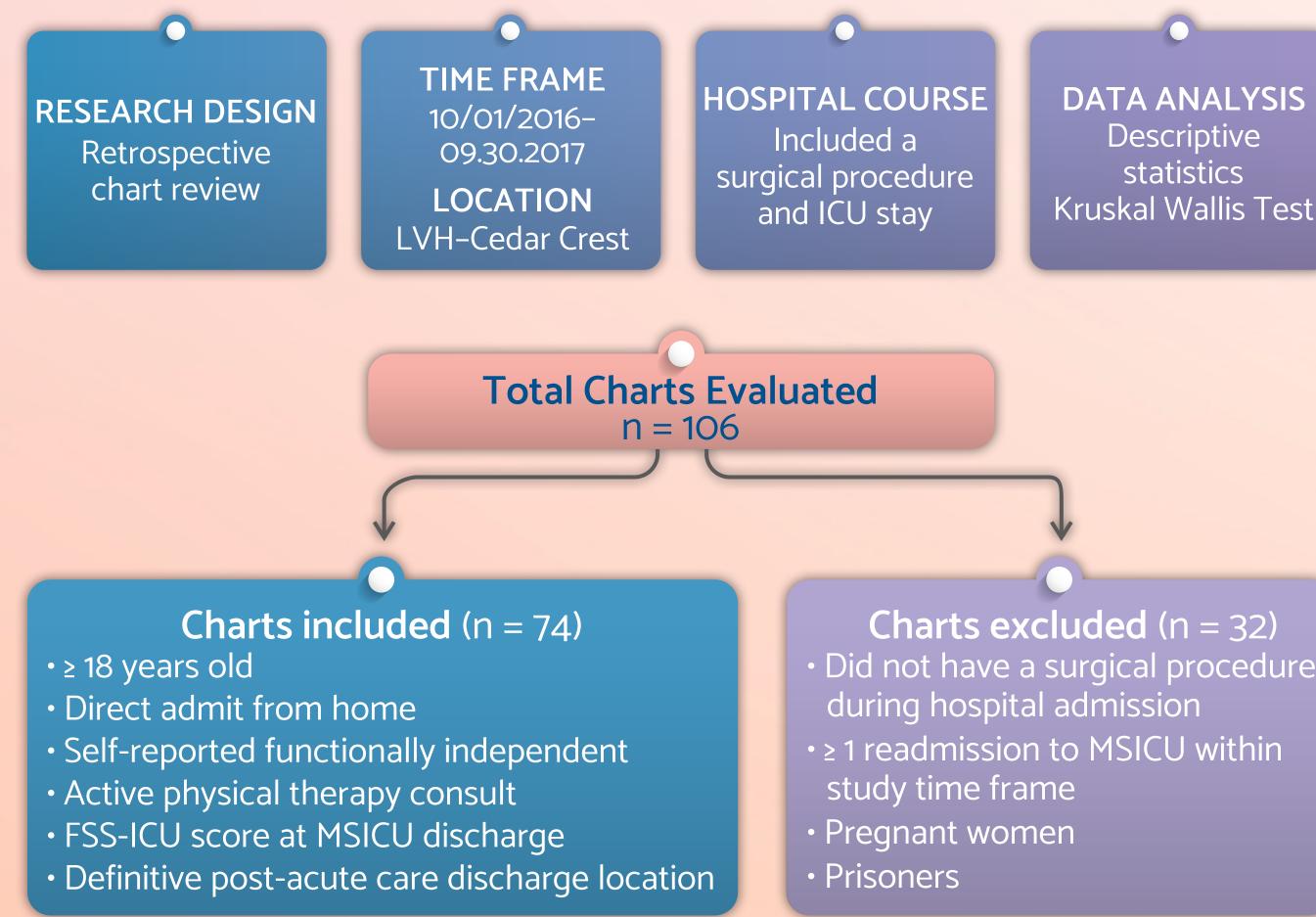
- The Functional Status Score for the Intensive Care Unit (FSS-ICU) is a reliable and valid clinical outcome measure used to evaluate a patient's physical functioning in an intensive care unit (ICU) setting.
- When studying this outcome measure, literature has often combined a surgical and non-surgical patient population.
- A surgical population differs from a non-surgical patient population in medical and surgical management, leading to different physiological changes from tissue disruption, pain levels, medical side effects, mobility restrictions, and lines, tubes, and drains.
- These two patient populations also have differences in ICU and hospital lengths of stays, all of which can affect functional mobility.
- Currently, there is limited research looking into the ability of the FSS-ICU to assist in guiding discharge location for a surgical patient population.

Aim and Hypothesis

AIM: To determine if there is a difference between the FSS-ICU scores acquired within 24 hours of ICU discharge across hospital discharge locations in a surgical patient population

HYPOTHESIS: There will be a difference in FSS-ICU scores acquired within 24 hours of ICU discharge across hospital discharge locations in a surgical patient population.

Methodology



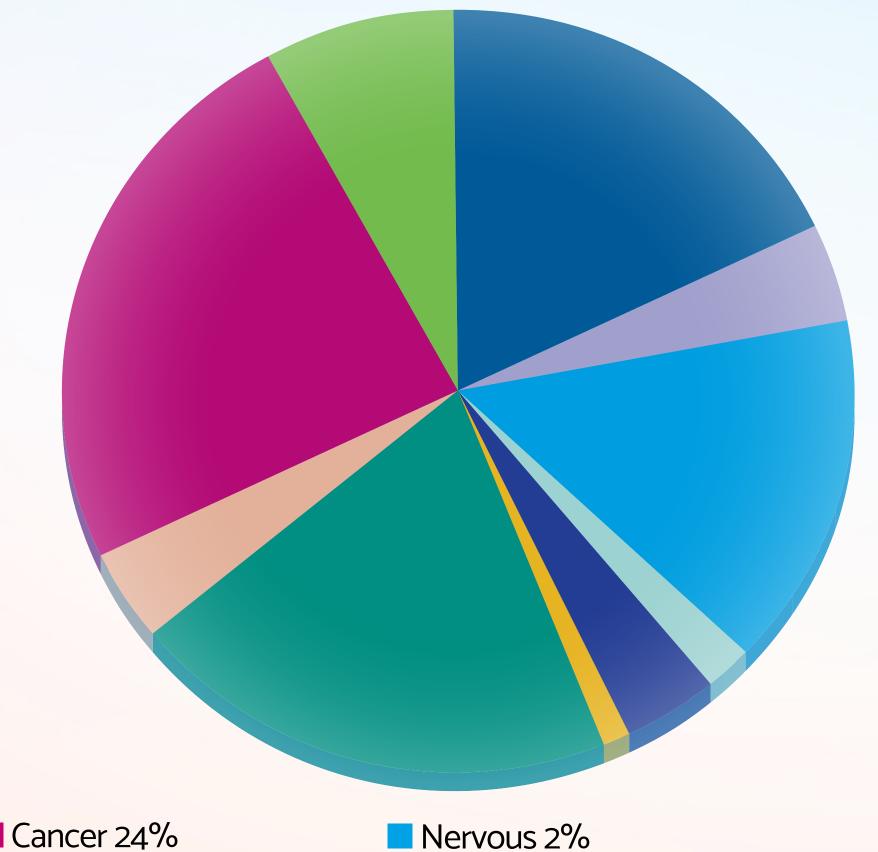
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Descriptive statistics Kruskal Wallis Test

Results DEMOGRAPHIC DATA (n=74)

Variable	Mean (SD) [Range]
Age (years)	62 (16) [18–91]
Sex (female)	34
Height	169 (11) [150–198]
Weight	85 (29) [41–172]

ADMITTING DIAGNOSTIC CATEGORY



- Cancer 24%
- Other 8%
- Circulatory 18%
- Respiratory 4%
- Infectious Parasitic 15%
- Endocrine/Nutritional/Metabolic 4%
- Injury/Poisoning/External Causes 1%
- Digestive 20%%
- Urinary 4%
- Mental/Behavioral/Neurodevelopmental 0%

REFERENCES

- 1. Bezner JR. Promoting health and wellness: implications for physical therapist practice. Physical Therapy.2015; 95(10):1433-1444. https://doi.org/10.2522/ptj.20140271. 2. Hiser S, Toonstra A, Friedman LA, Colantuoni E, Connolly B, Needham D. Interrater
- reliability of the functional status score for the intensive care unit. Journal of Acute Care Physical Therapy. 2018;9(4)186-192. doi: 10.1097/JAT.000000000000086. 3. Huang M, Chan KS, Zanni JM, et al. Functional Status Score for the ICU: An International
- Clinimetric Analysis of Validity, Responsiveness, and Minimal Important Difference. Crit Care Med. 2016;44(12):e1155-e1164. doi:10.1097/CCM.0000000000001949. 4. Kadivar Z, English A, Marx B. Understanding the relationship between physical therapist
- participation in interdisciplinary rounds and hospital readmission rates: preliminary study. Physical Therapy. 2016;96(11):1705-1713. doi:10.2522/ptj.20150243.

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DESCRIPTIVE HOSPITAL DATA (n = 74)

Variable	Mean or Frequency [Range]
Supplemental Oxygen at time of Physical Therapy Initial Evaluation	Room Air 24% Nasal Cannula 49% Opti-flow 3% Trach collar 3% Mechanical Ventilation 20% Extracorporeal Membrane Oxygenation 1%
Length of Stay (days)	Hospital 15 [2–68] ICU 8 [1–68]
Number of Physical Therapy Visits	Ward 2 [0–14] ICU 4 [2–32]
Highest ICU Physical Therapy Intervention	Rolling 1% Sit to Stand 3% Transfer Out of Bed 16% Ambulation 73% Stairs 7%
FSS-ICU Score at ICU Discharge	Home 23 [13–35] Inpatient Rehabilitation 17 [11–22] Subacute Rehabilitation 16 [10–21] Other 17 [14–21]

STATISTICAL ANALYSIS FOR FSS-ICU SCORES WITHIN 24 HOURS OF ICU DISCHARGE AND **DISCHARGE LOCATIONS**

Discharge Locations (Proportion)	Kruskal Wallis	
Home (61%)	$X^2 = 20.51$	
Post-Acute Care Discharge Locations (39%)	p < 0.0001	

- 5. Parry SM, Denehy L, Beach LJ, Berney S, Williamson HC, Granger CL. Functional outcomes in ICU – what should we be using? – an observational study. Critical Care (London, England). 2015;19:127. doi:10.1186/s13054-015-0829-
- 6. Ragavan VK, Greenwood KC, Bibi K. The Functional Status Score for the Intensive Care Unit Scale: Is It Reliable in the Intensive Care Unit? Can It Be Used to Determine Discharge Placement?. Journal of Acute Care Physical Therapy. 2016; 7(3):93-100. doi: 10.1097/IAT.000000000000030.
- 7. Skrzat JM, Pechulis M, DiFiore M, Fink A, Fischer G, Jordan M, Lebron E, Rieger A. FSS-ICU scores at ICU discharge differ across post-acute care dispositions. Journal of Acute Care Physical Therapy.
- 8. Tymkew H, Norris T, Arroyo C, Schallom M. The use of physical therapy ICU assessments to predict discharge home. Critical Care Medicine. 2020; 48(9):1312-1318. doi: 10.1097/ CCM.00000000004467.



Discussion

- This study adds to the FSS-ICU literature by isolating the surgical patient population.
- There was a statistically significant difference in FSS-ICU scores acquired within 24 hours of ICU discharge between home and post-acute care discharge locations in a surgical patient population.
- The mean FSS-ICU score at ICU discharge for a surgical patient population going home was 23. This is lower than the mean FSS-ICU score at ICU discharge for a non-surgical patient population going home, which was 27.
- Post surgical factors, such as pain and mobility restrictions due to lines, tubes, or drains, or surgical incision, could be primary reasons that a surgical patient population had lower FSS-ICU scores, yet similar discharge location, as the non-surgical patient population.

LIMITATIONS

- Data included a small sample size from one institution.
- Patients self reported independence for pre-hospital function.
- The FSS-ICU outcome measure does not account for medical factors, such as surgical complications, or social factors, which also contribute to discharge planning.

FUTURE DIRECTIONS

- Examine a more heterogenous patient population.
- Examine factors that contribute to a meaningful change in FSS-ICU.
- Examine differences in FSS-ICU scores between postacute care hospital discharge locations.

Clinical Relevance

- Early use of functional outcome measures is an ideal mechanism for improving utilization of PT services.
- The FSS-ICU can be implemented in a surgical patient population to guide discharge planning.



