AKI in Frailty Patients: How could we assess those at risk of adverse outcomes?
An extended Literature Review on how to incorporate outcome measures in the assessment of frail older adults in secondary care

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Introduction

Patients with frailty that attend secondary care services with acute medical problems are more likely to have an increase reliance on healthcare services (BGS 2021). Acute Kidney Injury (AKI) is a common diagnosis that we see within admissions to our acute frailty unit and research shows can occur in up to 1 in 5 patients admitted to hospital with a high financial burden on the NHS (Kidney Care UK 2022). National and Global strategies from The UN decade of healthy ageing (WHO 2020) and in the NHS forward plan (2019), encourages improved service use by patients with frailty and encourages improving outcomes for older patients by improving access and integrating care. Hypothesis was formulated to whether there was evidence available on the risks associated with AKI in frailty patients and whether risk assessment could be implemented to encourage discharge of patients from secondary services if there following diagnosis of an AKI.

Aims and Objectives

- Improve patient Care
- Support national and local initiatives to encourage out of hospital care for frailty patients
- Service development
- Improve evidence-based practice
- Develop a tool to decide on best guidance

Methodology

Database Search including Medline, Cinahl and PubMed, using Boolean Search Terms:
Acute Kidney Injury OR AKI or Acute kidney failure (Title) PLUS
Elderly OR Older Persons OR Frail or Frailty (Abstract). After screening a total of 8 studies were identified for analysis.

Results:

A total of 7 themes were identified during analysis which identified those patients with a diagnosis of frailty and AKI as being at higher risk of adverse outcomes such as mortality, development into end stage renal failure, progression into chronic kidney disease, increasing care needs on discharge and admission to a residential facility on discharge from secondary care

1) Those with frailty scores of >5 (Abder Kader 2018) (Jiesisibieke 2019) (Thongprayoon 2017) (Beaubien-Souligny 2021) (Baek 2016)

2) Those with polypharmacy or on nephrotoxic medications (Aitken 2013) (Baek 2016) (Faber 2019)

3) Those with multiple co-morbidities and those with heart failure and CKD (Beaubien-Souligny 2021) (Chou 2021) (Faber 2019)

4) Those with abnormal Electrolytes (Chou 2021) (Faber 2019)

5) Those who have rapidly progressing frailty (Abdel-Kader 2018) (Jiesisibieke 2019) (Beaubien-Souligny 2021) (Baek 2016)

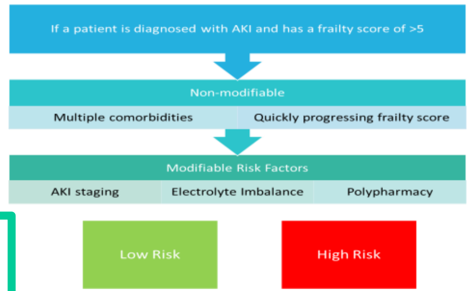
6) Those with an AKI at Stage 2 or 3 (Jiesisibieke 2019) (Thonprayoon 2017) (Chou 2021) (Aitken 2013)

7) Those with delayed recognition of AKI (Chou 2021) (Aitken 2013)

Identifying these areas within an already identified assessment tool such as a Comprehensive Geriatric Performa (CGA) can help us to identify the risks using available outcome measures and already available tools:

Clinical Frailty Score (Rockwood 2009)	Medication Review	Past Medical History	Investigations and Blood Results	Previous Clinical Frailty Scores	AKIN Criteria (Mehta 2007)	Time to Assessment (within 4 hours of admission)

These risks can then be identified as non-modifiable and modifiable risk factors where then an individualised care plan can be created to ensure patient- centred care which is evidence based and allows for structure to formulate a decision in regards to supporting discharge to primary or admission into secondary care services.



Discussion:

Positive: All results pointed towards physiological sense, had high confidence intervals of 95% and had high retention rates for the studies that included follow-up.

Negative: Nil Randomised Control Trials were screened likely due to ethical limitations on completing trials on patients with frailty. There were available sources that were not able to be retrieved for analysis and the data was only collected from secondary care data and did not identify risks for those being treated in primary care

Conclusion:

There has been themes identified that could help a clinician to assess those at risk of adverse outcomes in the context of AKI and Frailty. There is also an already available assessment tool in which we could focus assessment to help identify risks. There is however further research required on stratifying risk in terms of AKI and Frailty and whether a risk stratification tool could be developed to help quantify that risk.
Utilising this research in clinical practice when assessing patients could ensure patient-centered care and adheres with national and global strategies to improve care for older patients

Recommendations:

1) Propose a quality improvement project within our local frailty unit to develop a risk stratification tool
2) Dissemination to local primary care colleagues and support in development of their own risk assessment strategies in the community

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