Transforming AKI Management: An Innovative Mobile App Approach

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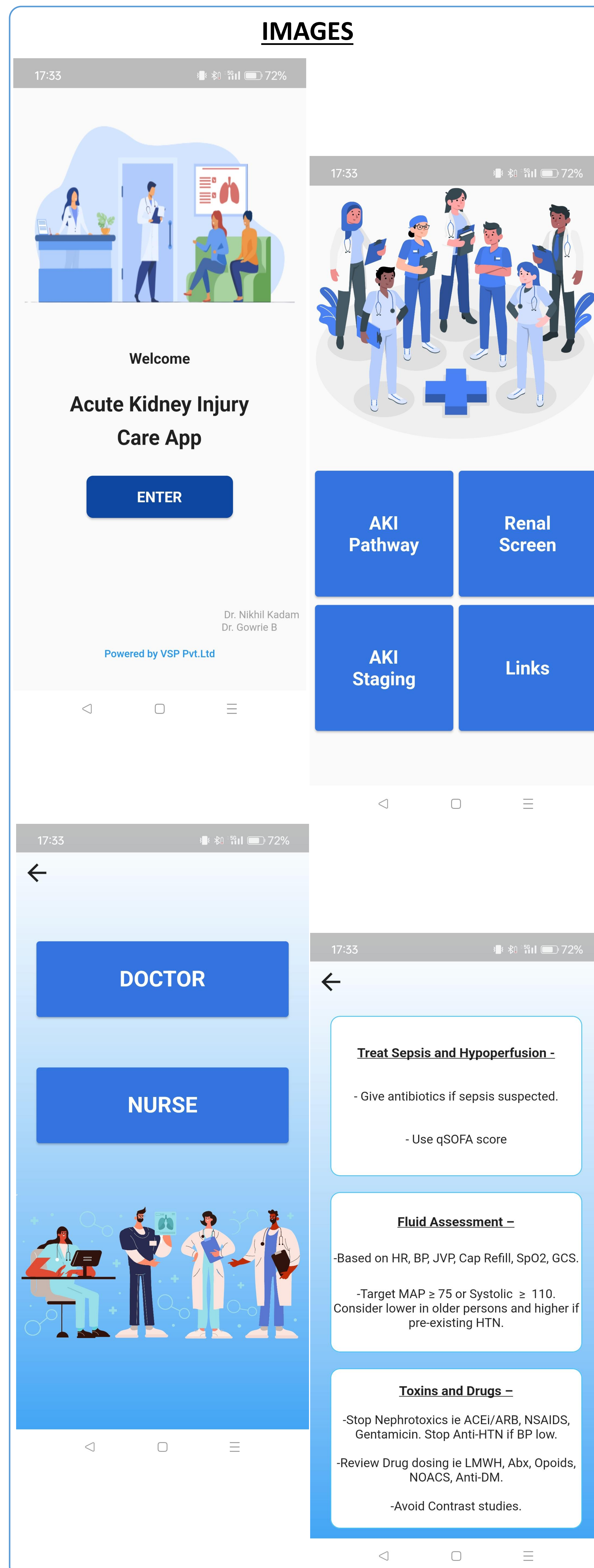
INTRODUCTION

The management of Acute Kidney Injury (AKI) presents complex issues, prompting the need for a Quality Improvement project that culminated in the creation of a mobile app.
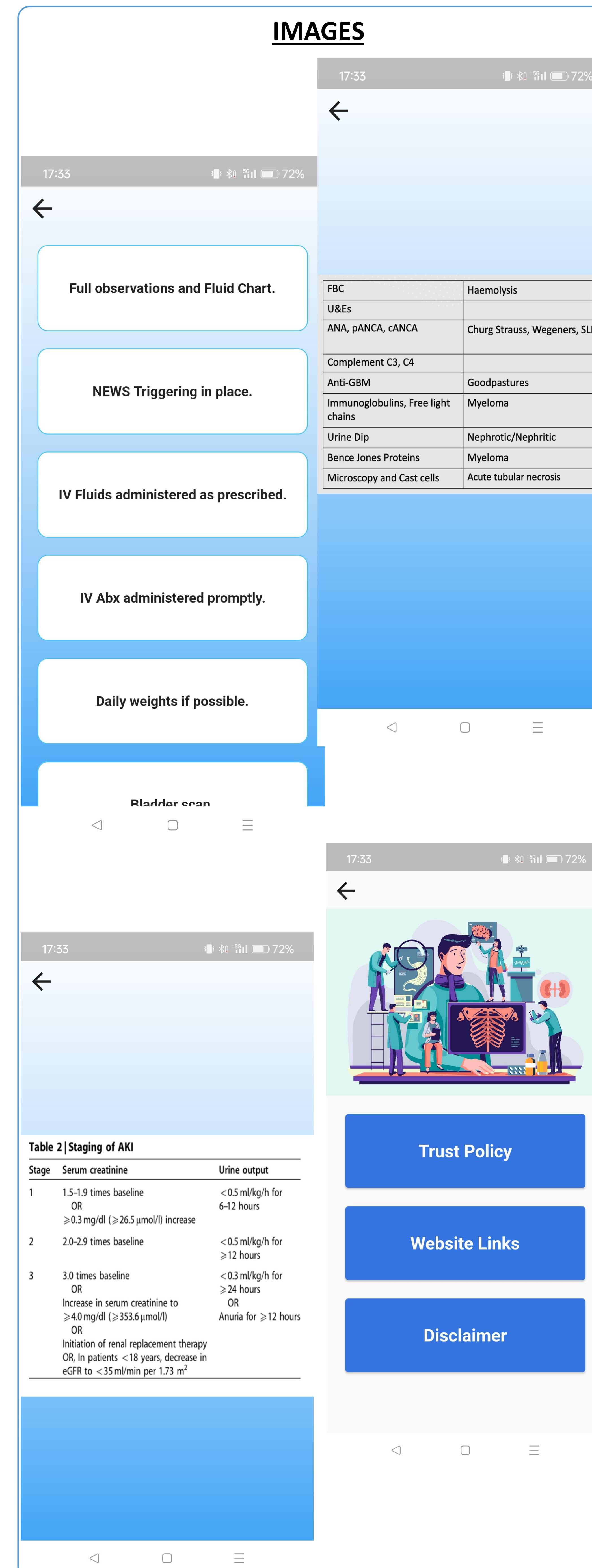
AIMS AND METHOD

Our primary aim is to streamline and improve AKI management by providing a comprehensive guide for identifying, staging, investigating, treating, and referring AKI cases, catering to doctors, nurses and allied health professionals.

The apps innovative design incorporates dynamic features such as AKI staging calculations, a curated Renal screen list, and explicit referral criteria. A unique aspect of this app is its exclusive focus on streamlined management guidance, substantiated by positive feedback from healthcare providers. Real-world feedback data has backed the foundation of this innovation. Embedded links within the app facilitate further reading of advanced AKI management strategies

IMAGES

Welcome
Acute Kidney Injury Care App
ENTER

Dr. Nikhil Kadam
Dr. Gowrie B

Powered by VSP Pvt.Ltd

DOCTOR

NURSE

AKI Pathway | Renal Screen

AKI Staging | Links

Treat Sepsis and Hypoperfusion -
- Give antibiotics if sepsis suspected.
- Use qSOFA score

Fluid Assessment –
-Based on HR, BP, JVP, Cap Refill, SpO2, GCS.
-Target MAP ≥ 75 or Systolic ≥ 110. Consider lower in older persons and higher if pre-existing HTN.

Toxins and Drugs –
-Stop Nephrotoxics ie ACEi/ARB, NSAIDS, Gentamicin. Stop Anti-HTN if BP low.
-Review Drug dosing ie LMWH, Abx, Opoids, NOACS, Anti-DM.
-Avoid Contrast studies.

IMAGES

Full observations and Fluid Chart.

NEWS Triggering in place.

IV Fluids administered as prescribed.

IV Abx administered promptly.

Daily weights if possible.

Bladder scan

FBC	Haemolysis
U&Es	
ANA, pANCA, cANCA	Churg Strauss, Wegeners, SLE
Complement C3, C4	
Anti-GBM	Goodpastures
Immunoglobulins, Free light chains	Myeloma
Urine Dip	Nephrotic/Nephritic
Bence Jones Proteins	Myeloma
Microscopy and Cast cells	Acute tubular necrosis

Table 2 | Staging of AKI

Stage	Serum creatinine	Urine output
1	1.5-1.9 times baseline OR ≥0.3 mg/dl (≥26.5 μmol/l) increase	<0.5 ml/kg/h for 6-12 hours
2	2.0-2.9 times baseline	<0.5 ml/kg/h for ≥12 hours
3	3.0 times baseline OR Increase in serum creatinine to ≥4.0 mg/dl (≥353.6 μmol/l) OR Initiation of renal replacement therapy OR, In patients <18 years, decrease in eGFR to <35 ml/min per 1.73 m²	<0.3 ml/kg/h for ≥24 hours OR Anuria for ≥12 hours

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Website Links

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CONCLUSION

Preliminary data demonstrates the apps ability to expedite AKI interventions, leading to improved patient outcomes and shorter hospital stays. The staff awareness and understanding has noted to improve as well.

DISCUSSION

The user-centric design have received real life positive feedback from healthcare providers. The apps potential to expedite AKI interventions and enhance patient outcomes is a significant advancement in healthcare. Its availability on the Google Store, with an Apple Store version in development, enhances its accessibility among medical professionals. .

QR Code for the Application