{NESTED} The efficiency of KNOWLEDGE to facilitate the

conduction of a systematic review and meta-analysis

Experience with a semi-automated systematic review web-based platform powered by artificial intelligence (AI)

Background: Timely syntheses of evidence are necessary for making informed decisions, particularly regarding high-priority urgent health problems. We evaluated the efficiency of Nested Knowledge (NK) to facilitate the conduction of a systematic review and meta-analysis. nested-knowledge.com

Screening highlighting PICO & keywords

1445 Ruiz-Sanchez, 2020

Full Text Supplements Related Reports

The effect of the dose of isotonic saline on the correction of serum sodium in the treatment of hypovolemic hyponatremia Background: Overcorrection of serum sodium (SNa) during therapy of hyponatremia can result in osmotic demyelination syndrome. Our aim was to determine the relationship between the isotonic saline solution dose (ISSD) administered and the 24-h SNa increase (24SNa) in patients with hypovolemic hyponatremia (HH). Method(s): Retrospective study of HH patients treated with ISS in a tertiary hospital of Madrid, Spain, between 1 January-30 May 2019. The 24-h ISSD received and corresponding 24SNa were calculated. The latter was classified as 3 groups: >=8 mmol/L, >=6 mmol/L, or <4 mmol/L. Multivariate regression analyses were performed and ROC curves calculated to study the relationship between ISSD and 24SNa. Result(s): Thirty patients were included, age 72 years (60-80), 50% were women. 24SNa was >=8 mmol/L/24 h in 33%, >=6 mmol/L/24 h in 50%, and <4 mmol/L/24 h in 30%. Median ISSD in each group was: 32 mL/kg/24 h (29-37), 31 mL/kg/24 h (25-33), and 20 mL/kg/24 h (14-22), respectively. An ISSD >= 30 mL/kg/24 h had an odds ratio (OR) of 16 (95% CI: 2.5-95.1; p = 0.004) for a 24SNa >= 8 mmol/L, with a sensitivity and specificity of 80%. Conclusion(s): The 24SNa depends on ISSD. An ISSD between 23-30 mL/kg/24 h seems to be safe and effective. Copyright © 2020 by the authors. Licensee MDPI, Basel, Switzerland.



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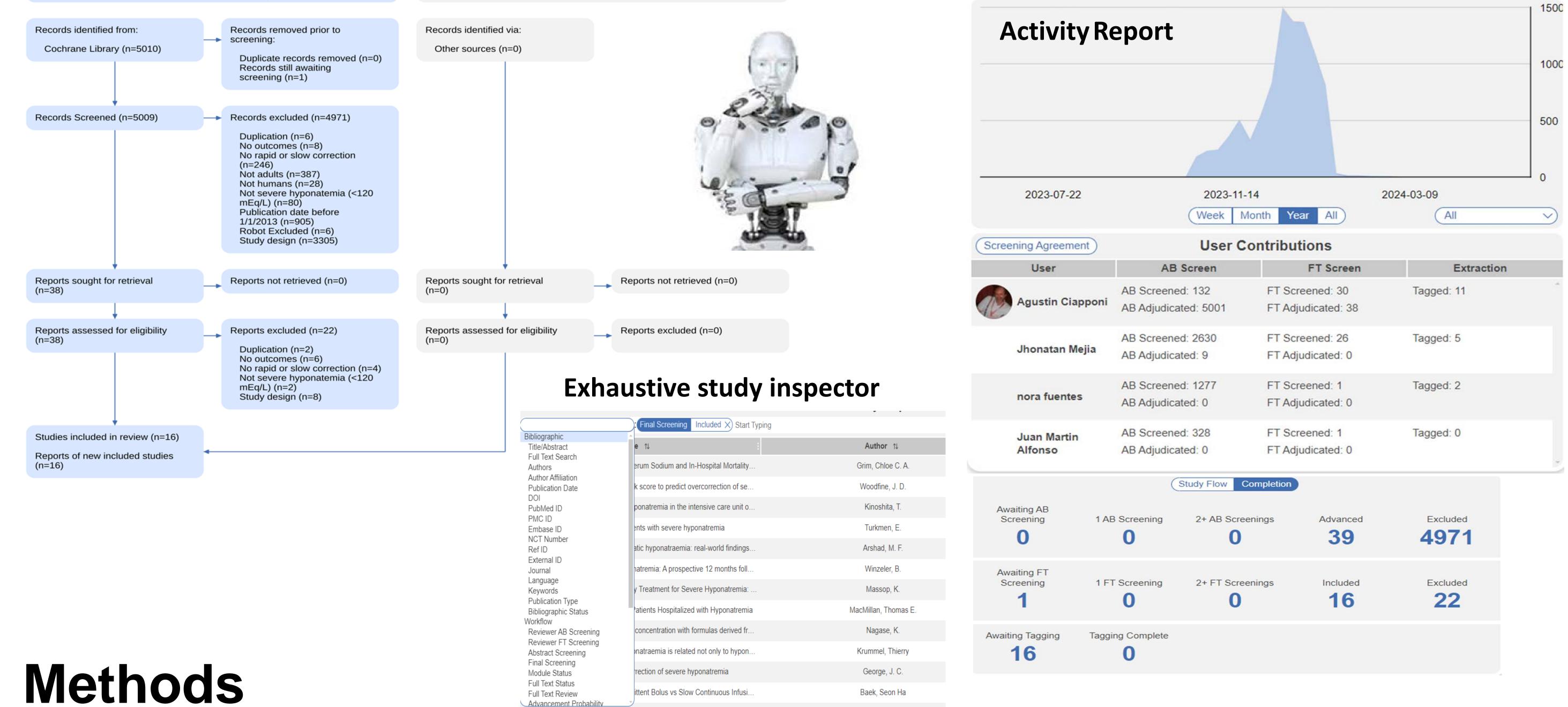
DOI

Identification of new studies via databases and registries dentification of new studies via other methods Records identified from: Records identified via: Records removed prior to screening: Cochrane Library (n=5010) Other sources (n=0) Duplicate records removed (n=0) Records still awaiting screening (n=1) Records Screened (n=5009) Records excluded (n=4971) Duplication (n=6) No outcomes (n=8) No rapid or slow correction (n=246) Not adults (n=387) Not humans (n=28) Not severe hyponatemia (<120 mEq/L) (n=80) Publication date before

PRISMA 2020 chart

- The platform was very intuitive and no special training was required.
- The automatic PICO highlighting, the AI-prediction of the most relevant studies and the study inspector facilitated the screening.
- The model training required 50 records (including 10 potentially eligible studies). Once the screening ~5000 records was completed by one reviewer, the dual screening by robot took <1 minute and the discrepancy resolution of 292 records took \sim 3 hours with no potentially eligible study was excluded by the robot.

The platform maintained a full audit record of our activities.

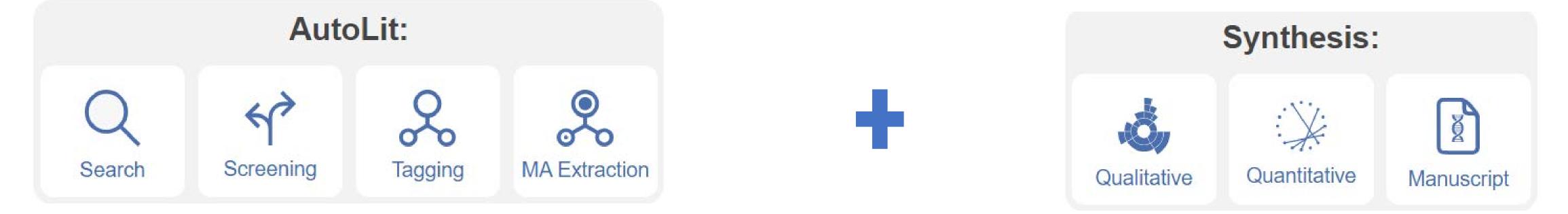


We used NK, in a systematic review to select studies assessing sodium correction velocity in terms of

Giardana Maura

mortality, neurological complications, and length of stay (CRD42023475592).

This software composed of two parts that to complete all a systematic review stages:



Limitation: The rest of functionalities should be tested in more systematic reviews to confirm **NK** performance.

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