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Management of neonatal jaundice readmissions within a district hospital: a service evaluation

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Background

In 2022, 43% of readmissions to the postnatal ward of a district hospital were due to neonatal jaundice, with a length of stay of between 35 and 45 hours. Improving the patient's clinical journey in neonatal jaundice cases could potentially reduce the admission length and save service costs. With this aim, a service improvement project was conducted to review current neonatal jaundice readmission management against the evidence base to find areas for improvement.

Evidence review

A literature review identified relevant research-based articles that: investigated neonatal jaundice (National Institute for Health and Care Excellence, 2010); described the implementation of nurse-led pathways to improve quality in patient care (Romero *et al.*, 2018); used case studies as a research method (Green *et al.*, 2022); and described novel development in neonatal hyperbilirubinemia screening methods (Hulzebos *et al.*, 2021).

Method

Data was extracted from five case studies (Green *et al.*, 2022) and used with a stakeholder group (including parents, midwives, and junior doctors) to create two questionnaires (one for parents and one for professionals). The questionnaire used the evidence base to explore how to improvements to the patient's clinical journey could be made and identify opportunities to reduce admission length.

Results

Two main themes impacting on length of admission emerged: time management issues and resource management issues. The two areas of improvement most frequently identified from the professional's questionnaire (n=16) were staff education (100%) and delays in the sampling process (56%). The two areas for improvement most frequently

identified from the parent's questionnaire (n=6) were infant feeding support (67%) and information about equipment (67%).

Discussion

To improve the patient's clinical journey and reduce the length of admission, more staff education is required to optimise the treatment pathway. To further enhance the effectiveness of treatment strategies, improved parent resources need to be developed in collaboration with the infant feeding team and parent representatives.

Additionally, it is proposed that sampling delays could be reduced by initiating the use of a bilirubin analyser at the point of care (Hulzebos *et al.*, 2021).

This service evaluation will now inform a service improvement project that would develop and implement a programme of staff education alongside augmenting the resources and support given to parents. Concurrently the practice of sending blood samples to pathology for analysis would be replaced by using a point of care blood gas analyser.

Conclusion

Reducing the neonatal jaundice care pathway timeline by implementing the findings and conclusions of this evaluation project could positively influence current clinical practice and reduce the length of admission caused by neonatal jaundice. This would reduce financial costs to the hospital and the psychological cost to the family.

References

- Green, J., Hanckel, B., Petticrew, M., Paparini, S. and Shaw, S. (2022) 'Case study research and causal inference', *BMC Medical Research Methodology*, 22, 307. DOI: <https://doi.org/10.1186/s12874-022-01790-8>
- Hulzebos, C.V., Vitek, L., Coda Zabetta, CD., Dvrak, A., Schenk, P., van der Hagen, E.A.E., Cobbaert, C. and Tribelli, C. (2021) 'Diagnostic methods for neonatal hyperbilirubinemia: benefits, limitations, requirements, and novel developments', *Pediatric Research*. 90, pp. 227-238. DOI: <https://doi.org/10.1038/s41390-021-01546-y>
- National Institute for Health and Care Excellence (2010) 'Neonatal Jaundice', NICE Clinical Guideline 98, (May), pp. 1–54. DOI: <https://doi.org/10.1093/tropej/fms051>
- Romero, H.M., Ringer, C., Leu, M.G., Beardsley, E., Kelly, K., Fesinmeyer, M.D., Haaland, W., Johnson, J.B. and Migita, D. (2018) 'Neonatal jaundice: Improved quality and cost savings after implementation of a standard pathway', *Pediatrics*, 141(3). DOI: <https://doi.org/10.1542/peds.2016-1472>



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