The role of the pharmacist in the management of Intravenous fluids & electrolytes in adult patients 4CPS-008

ATC code (if applicable): 1. Questionnaire survey of medical personnel

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Background

Many patients in our hospitals require intravenous (IV) fluid therapy to avoid or address imbalances of either fluid and/or electrolyte balance. The National Confidential Enquiry into Patient Outcome and Death (NCEPOD) reported that 1 in 5 patients who receive intravenous (IV) fluids and electrolytes experience increased morbidity or complications relating to fluid administration[1]. NICE[2] recommend that fluid prescribing should be treated with the same consideration as that of medication, and that it is the responsibility of the multi-professional team. In June 2021, RQIA established a number of working groups to address gaps in knowledge with regard to IV fluids, and one group were tasked with developing a multiprofessional e-learning package on IV fluids and electrolytes for staff in Northern Ireland (NI). Pharmacy representatives on the group sought to determine the baseline knowledge, experience and expectation of pharmacists across NI in relation to IV fluids in order to inform the development of this training.

Aim

- To ascertain the current role of hospital pharmacists in the management of IV fluids and electrolytes
- To determine the advantages and limitations of existing training on IV fluids and electrolytes
- To explore potential future roles for pharmacists in relation to the management of IV fluids and electrolytes.

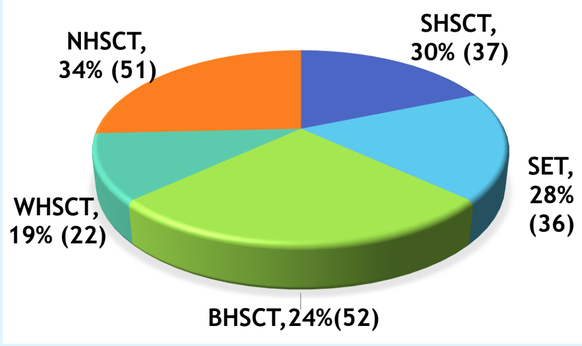
Method

In July 2021 a pre-piloted 20 item questionnaire developed in Microsoft forms was emailed to all pharmacists working in secondary care in Northern Ireland (n=739) via email. A mix of multiple choice, Likert style as well as free-text questions were included. The data was analysed using Excel and descriptive statistics were used. Free text comments were evaluated using Thematic analysis.

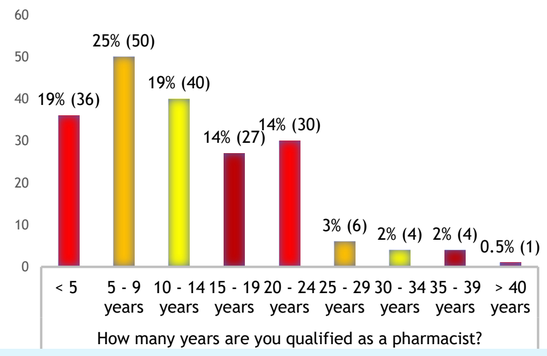
Results and discussion

One hundred and ninety-eight pharmacists responded, representing a 27% response rate, with a spread of responses from all 5 Trusts in NI (*Figure 1*). Respondents were 78%

RESPONDENTS PER HOSPITAL TRUST (FIGURE 1)



YEARS AS A PHARMACIST (FIGURE 2)



female, 18% male and 4% did not specify their gender identity. Respondents came from all age ranges, but were most likely to be qualified up to 15 years (63%) (*Figure 2*), be a band 8a or below (94%) to work in a clinical setting (72%), and four times more likely to work in a Medical speciality (46%) than in a Surgical speciality (12%), which reflects the usual funding for pharmacist posts in NI.

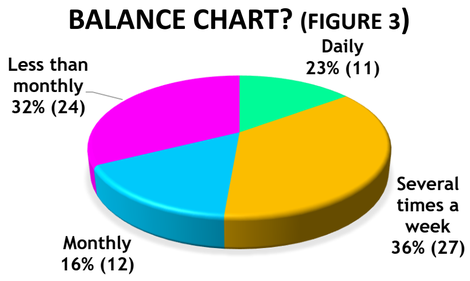
Experience with IV fluids & electrolytes

Just over half of respondents had experience managing IV…

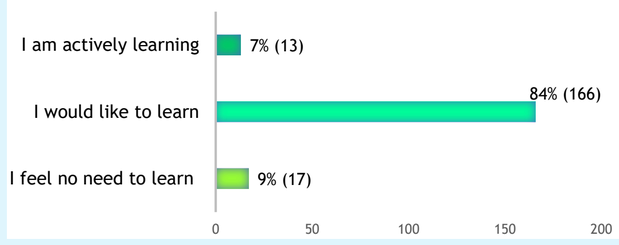
Results and discussion

…fluids (54%) but only 3% defined themselves as "very experienced" in this area. Most respondents do not currently, in their day to day role, clinically check IV fluids (71%). Of those who do review fluids regularly (n=74), 23% did so daily, 36% several times a week, 32% less than monthly and 16% monthly (*Figure 3*).

HOW OFTEN DO YOU CLINICALLY CHECK THE IV FLUID RX OR BALANCE CHART? (FIGURE 3)



IN RELATION TO CLINICALLY CHECKING THE FLUID RX AND BALANCE CHART (FIGURE 4)



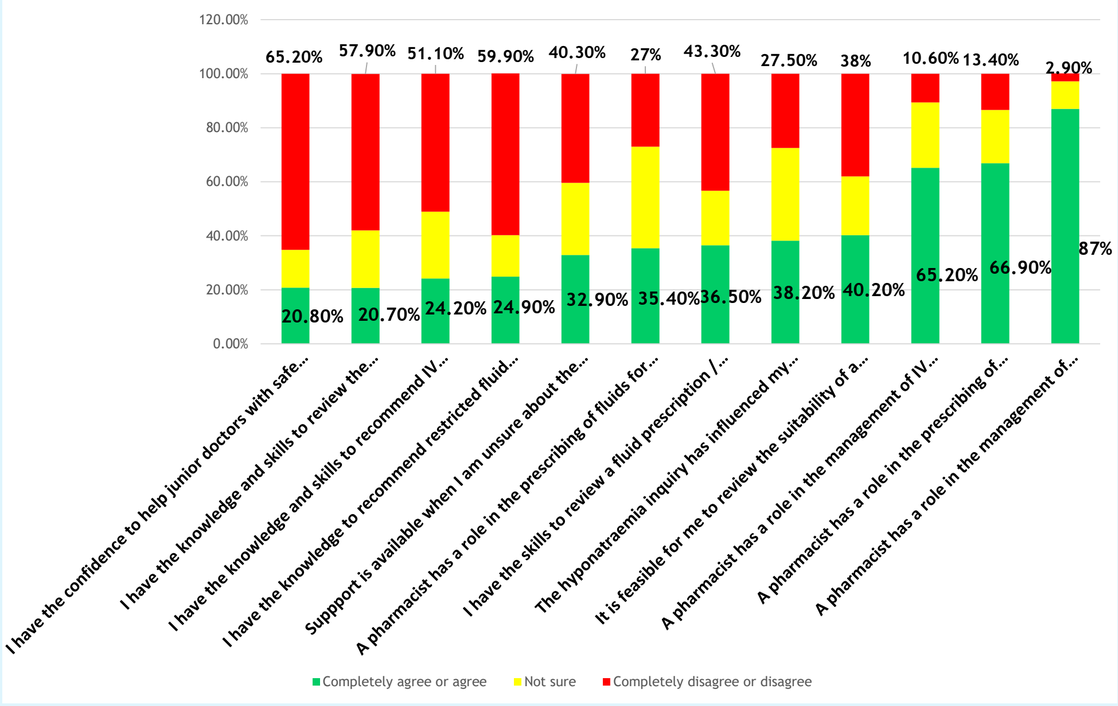
Knowledge & skills in relation to IV fluids & electrolytes

In relation to whether they were, or would like to learn how to clinically check the IV fluid prescription or balance chart, 84% of respondents expressed a desire to learn, 7% were already actively learning and 9% felt no desire to learn this skill (*Figure 4*).

Role of the pharmacist in relation to IV fluids & electrolytes

Most (65%) respondents were not confident in their ability to support junior doctors in the prescribing of IV fluids, to recommend restricted fluid volumes (60%), to check the suitability of fluid prescriptions (58%) or to recommend IV electrolyte therapy (51%). However, 65% of respondents (n=129) completely agreed or agreed that the pharmacist has a role in the management of fluids at ward level, with 67% (n=133) agreeing that the pharmacist has a role in the prescribing of IV electrolytes, 65% (n=129) in the prescribing of IV fluids. Only 40% (n=80) of respondents believed it was feasible to manage IV fluid and electrolytes in their current job role and only 33% (n=65) completely agreed or agreed there was sufficient support at ward level for them to do this (Figure 5).

PHARMACISTS' VIEWS OF THEIR ROLE WITH IV FLUIDS AND ELECTROLYTES (FIGURE 5)



Conclusions

Pharmacist respondents (n=198) believe that pharmacists have a role in the management of IV fluids and electrolytes, however most have identified a gap in their knowledge and skills. There is also a need to resource this additional task appropriately so that other roles of the pharmacist are not neglected.

References

1. NCEPOD (2004). The NCEPOD classification of intervention, National Confidential Enquiry into Perioperative Deaths. Accessed from www.ncepod.org.uk/2004report/Full_Report_2004.pdf July 2021.
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3. Lee C, McCrory R, Tully MP, Carrington A, Donnelly R, Dornan T (2020). Readiness to prescribe: Using educational design to untie the Gordian Knot. PLoS ONE 15(1): e0227865. https://doi.org/10.1371/journal.pone.0227865.