Nurse led education plus direct access to imaging improved diagnosis and management of urinary tract infections in children


In general practice, does nurse practitioner (NP) led education plus direct access to imaging improve diagnostic and management of urinary tract infections (UTIs) in children?

METHODS

In general practice, does nurse practitioner (NP) led education plus direct access to imaging improve diagnosis and management of urinary tract infections in children?

MAIN RESULTS

The rate of diagnosis of UTIs was greater in the NLI group than in the UC group (6.42 v 3.45 cases/1000 children/y, relative benefit increase 86%, 95% CI 42% to 144%). More children in the NLI group than in the UC group had bacteriologically proven UTIs (table). Among children <4 years of age, more children in the NLI group received prophylactic antibiotics than in the UC group (94% v 41%, p < 0.001). 12 infants in the NLI group had reflux without scarring compared with none in the UC group (p > 0.05).

CONCLUSION

Nurse led education plus direct access to imaging improved the rate of paediatric diagnosis and management of urinary tract infections in general practice.

Commentary

The study by Coulthard et al addressed an important aspect of paediatric primary health care. UTIs are not always considered as a diagnosis for children >1 year of age with fever not yet determined. Even fewer are investigated, especially without office evidence of white blood cells or nitrates on urine dipstick testing. Coulthard et al aimed to determine whether a health services model that attempted to bridge the gap between general practice and secondary care could improve the care of children with UTIs and thus prevent renal scarring.

The design of the intervention was complex, involving the development of concise clinical guidelines, formal education for physicians, and a NP providing support and coordinating access to secondary services. Further instruction was available as required. The guideline for the NLI group recommended treatment with antibiotics upon clinical suspicion of a UTI, urine collection using pads for young children, and access to investigational imaging if a diagnosis of UTI was confirmed. The results show improved management of children with UTIs in the NLI group and a 4 fold increase in UTI diagnosis in infants (<1 y of age)—those at greatest risk of renal scarring. The study findings appear to reinforce those of a previous study.

The study by Coulthard et al promotes several important considerations for general practice. Firstly, suspect UTI in children with fever without a focus, and treat. Secondly, do not rely exclusively on office dipsticks to guide management. Thirdly, question whether catheterisation is the best way to obtain a urine specimen in children not yet toilet trained. Fourthly, use antibiotics judiciously while awaiting culture results. These guidelines, although controversial, should prompt practitioners to question practice. This study is an important contribution to paediatric primary healthcare and may start to shift clinical thinking.

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