dence of atopic eczema, it should still be recommended for other reasons.

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Telephone Treatment for Urinary Tract Infection

Saint S, Scholes D, Fihn SD, Farrell RG, Stamm WE. The effectiveness of a clinical practice guideline for the management of presumed uncomplicated urinary tract infection in women. Am J Med 1999; 106:636-41.

Clinical question **Is a policy of over-the-telephone treatment appropriate for the management of uncomplicated urinary tract infections (UTIs)?**

Background If the treatment of UTIs by telephone was shown to be safe and effective, it would be a convenient cost-effective option for patients. One health system tested this type of policy using a guideline developed by physicians, nurses, pharmacists, and support personnel.

Population studied The patients were members of Group Health Cooperative, a health maintenance organization in Washington. All women aged 18 to 55 years with symptoms of an uncomplicated UTI were eligible. Women who might be pregnant, or had symptoms of pyelonephritis (eg, fever), sexually transmitted disease (eg, vaginal discharge), or other complications (eg, diabetes, chronic catheter) were excluded. Patients of 24 primary care or family medical centers were included in the analysis. The patients of 2 other practices in the same system served as concurrent controls.

Study design and validity This evaluation of a clinical practice guideline used both a historical control and a nonrandomized concurrent control group. At intervention sites, telephone nurses offered empiric treatment for low-risk patients instead of an office visit. Treatment consisted of a 3-day course of selected antibiotics. Outcomes were measured before and after implementation of the triage policy. At 6-month intervals, data were gathered using an automated encounter and pharmacy database. Because of the limitations of these data sources, no attempt was made to measure or adjust for potential confounding variables, such as age and sexual activity. One hundred patients treated in accordance with the guideline were surveyed by telephone to assess their satisfaction with the care received. This survey could have been strengthened by also surveying patients in the control practices.

Outcomes measured The authors measured resource utilization in the following ways: the proportion of patients who had a urinalysis or urine culture performed, the proportion of patients who received a guideline-recommended antibiotic, and the proportion of patients who had an office visit rather than treatment by telephone. Potential adverse effects included the proportion of patients who developed pyelonephritis within 60 days and the number of return visits for sexually transmitted diseases or recurrent UTI. No routine follow-up was performed.

Results Approximately 40% of the 1883 women calling for an appointment for a UTI accepted treatment by telephone. Overall, patients treated after implementation of the guideline had significant decreases in the rates of urinalysis, urine culture, and office visits when compared with patients treated before implementation. These outcome measures were not statistically different when compared with the concurrent control group. The proportion of patients who received a guideline-recommended antibiotic increased from 18% before guideline implementation to 53% after implementation. This rate was also significantly higher when compared with the concurrent controls, a difference that would have been larger, except for a secular trend of increased use of appropriate antibiotics at the control clinics. The proportion of patients with pyelonephritis, recurrent UTI, or sexually transmitted diseases did not change. The telephone survey revealed that 95% of patients were satisfied with their care, and 85% would use the nurse triage system again in the future.

Recommendations for clinical practice **The authors describe the health-system–wide evaluation of a policy of telephone treatment for UTI. Although they mention significant decreases in resource use after implementation of the guideline, the comparison with concurrent control practices was not as striking. This study has significant limitations in its nonrandomized design; most important was the possibility of selection bias and confounding. There is also the potential for infrequent adverse outcomes. However, there was no evidence of worse outcomes with the policy, and it is reassuring that such high numbers of patients were satisfied with the care given in accordance with the guideline. This study suggests that it may be reasonable to have a telephone protocol to treat low-risk women with typical UTI symptoms.**

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