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Category: Travail de recherche / Research work
Primary author: Thomas Audet **Institution**: Médecin-résident en rhumatologie à la Faculté de médecine et des Sciences de la Santé de l'Université de Sherbrooke, Sherbrooke, QC.
Additional Authors:
Marie-Aude Picard-Turcot, MD. Médecin-résidente en médecine familiale, Faculté de Médecine, Université de Montréal, Montréal, QC.
Julie Robindaine, BSc. Infirmière practitienne au Centre intégré universitaire de santé et de services sociaux de l'Estrie – Centre hospitalier universitaire de Sherbrooke (CIUSSSE-CHUS), Département de Médecine, Service de rhumatologie, Université de Sherbrooke, Sherbrooke, QC.
Nathalie Carrier, MSc. Centre de recherche du Centre hospitalier universitaire de Sherbrooke, Département de rhumatologie, Université de Sherbrooke, Sherbrooke, QC.
Pierre Dagenais, MD. PhD. Professeur-associé à la Faculté de médecine et des Sciences de la santé de l'Université de Sherbrooke. Rhumatologue au CIUSSSE de l'Estrie, Service de Rhumatologie, Département de Médecine, Sherbrooke, QC.
Marie-Aude Picard-Turcot, MD. Médecin-résidente en médecine familiale, Faculté de Médecine, Université de Montréal, Montréal, QC.
Julie Robindaine, BSc. Infirmière practitienne au Centre intégré universitaire de santé et de services sociaux de l'Estrie – Centre hospitalier universitaire de Sherbrooke (CIUSSSE-CHUS), Département de Médecine, Service de rhumatologie, Université de Sherbrooke, Sherbrooke, QC.
Nathalie Carrier, MSc. Centre de recherche du Centre hospitalier universitaire de Sherbrooke, Département de rhumatologie, Université de Sherbrooke, Sherbrooke, QC, Canada.
Pierre Dagenais, MD. PhD. Professeur-associé à la Faculté de médecine et des Sciences de la santé de l'Université de Sherbrooke. Rhumatologue au CIUSSSE de l'Estrie, Service de Rhumatologie, Département de Médecine, Sherbrooke, QC.

Title: **Improving Gout Care in a Canadian Academic Medical Centre Through a Multidisciplinary Nurse-led Program**

Objective(s): Background: Gout is the leading cause of inflammatory arthritis worldwide. Recent reports have demonstrated a care-gap between guidelines and gout management in Canada.

Objective: Following Health Canada's Knowledge Translation (KT) framework, to report the results of a clinical audit from 2012-2015 followed by a multidisciplinary nurse-led gout care program implemented in April 2018 at Centre integre universitaire de sante et services sociaux de l'Estrie - Centre hospitalier de l'Universite de Sherbrooke (CIUSSSE-CHUS).

Method(s): Methods: Clinical audit with chart reviewing was completed for adults with gout and urate lowering therapy (ULT) indication. Upon results, using the AGREE II Instrument, we developed a nurse-led treatment algorithm with a treat-to-target strategy using allopurinol. Referral to the program was at physician's discretion. Monitoring of serum uric acid (sUA) every 4 weeks with titration of ULT by a nurse was done until sUA target achievement, under physician supervision. Planned assessment at 2 years to evaluate the program's impact compared to usual care was done using a retrospective cohort study with identification of patients through billing agency. Adults with gout and ULT indication were recruited from implementation to December 2020. Main outcome was serum uric acid (sUA) target achievement at 6 months.

Result(s): Results: Of 50 patients identified in the audit, 82% were men. At 6 months, 31.0% reached sUA target and 16% were lost to follow-up. A 74-patient cohort was then recruited: 43 in the nurse-led care program and 31 in the usual care group. Men numbered 85.1% of patients. Both groups were similar in characteristics. Most prevalent ULT indication was ≥ 2 gouty attacks/year (n=52) at 70.3%. Target sUA was reached in 65.1% (n=28) in the intervention arm at 6 months compared to 19.4% (n=6) in the usual care group ($p<0.001$). Median time to target was 15.4 weeks from protocol initiation (IQR 8.9 – 19.7) in the intervention arm. Median daily dose for those reaching sUA target was 200 mg (IQR 200-300). No characteristic was independently linked to a higher likelihood of reaching sUA target at 6 months. Failing to titrate medication in the usual care group was the leading cause for non-achievement of sUA target at 6 months. Lost to follow-up was seen in 5.4% of patients: all in the usual care group.

Conclusion(s): Conclusion: Following Health Canada's KT model, a multidisciplinary nurse-led gout care program designed after a clinical audit significantly improved gout care at CIUSSSE-CHUS. Such program could easily be replicated elsewhere in Canada.