Impact of Pharmaceutical Care on Self-Administration of Outpatient Low-Molecular-Weight Heparin Therapy

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ABSTRACT

Outpatient subcutaneous (s.c.) therapies are becoming more and more common in the treatment of different diseases. The effectiveness of community-pharmacy-based interventions in preventing problems that arise during s.c. self-injections of low-molecular-weight heparins (LMWH) is unknown. Our objective was to provide a standard operating procedure (SOP) for community pharmacists and to compare pharmaceutical vs. standard care in both clinical and daily life settings. We hypothesized that: pharmaceutical care results in improved adherence, safety, and satisfaction, and in fewer complications; the interventions used are feasible in daily life; and the results achieved in clinical and daily life settings are comparable. In the clinical setting (randomized controlled trial), patients were recruited sequentially in hospital wards; in the daily life setting (quasi-experimental design with a comparison group), recruitment took place in community pharmacies by pharmacists and trained master students during their internship. Interventions were offered according to patient needs. Data were collected by means of a monitored self-injection at home and structured questionnaire-based telephone interviews at the beginning and the end of the LMWH treatment. The main outcome measures were: scores to assess patient's skills; syringe count to assess adherence; and frequency, effectiveness, and patient's assessment of received interventions.

The results show a median age of the 139 patients of 54 years. Interventions resulted in improved application quality ($p < 0.01$) and knowledge ($p = 0.03$). Oral instructions were pivotal for improving patients' application quality. We found no significant score differences between the intervention groups in the clinical and daily life settings. Patients' baseline skills were high, with the lowest score being 0.86 (score range −2.00 to +2.00). Adherence rate was high (95.8%). In conclusion, our SOP for pharmacist interventions was of good quality, adequate, appreciated, and feasible in daily life. Patients are capable of managing s.c. injection therapies if adequate assistance is provided.