Abstract Topic: 6. Chronic lymphocytic leukemia and related disorders - Clinical

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ENHANCING EFFICIENCY AND COST-EFFECTIVENESS IN SUBCUTANEOUS IMMUNOGLOBULIN REPLACEMENT THERAPY HOME TRAINING: INSIGHTS FROM A STUDY ON INFUSION PUMP CHOICES AND TRAINING PROTOCOLS

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Background:

Training of patients for subcutaneous immunoglobulin replacement therapy (IgRT) at home has been a routine practice in the United Kingdom (UK) for over 15 years. However, variations in training and monitoring strategies between immunology centers have emerged due to local factors.

Aims:

This study aims to examine the infusion pump choices for home therapy in two immunology centers in different parts of the UK, with a focus on selecting infusion pumps that are easy to understand and operate, thus requiring less home training and promoting patient autonomy. Currently, two infusion pump types share the market: electronic and mechanical pumps.

Methods:

The study compares the infusion pump choices for home therapy in two immunology centers. Center (1) utilizes a mechanical infusion pump and center (2) employs an electronic pump.

Data was collected regarding the home therapy training practices on various aspects, including the choice of infusion pump and needle set, training duration, patient follow-up, assessment of patient competency, available options for non-competent patients, satisfaction audits on training, training pack specifics, and the personnel involved in training. Furthermore, a nursing time cost analysis was conducted taking the hourly wage rates for nurses in the UK National Health Service (NHS) into account.

Results:

Each center provided the training schedule for 12 patients in the years 2015 – 2019. The results revealed significant variations in training protocols, duration and nurse in-person visits between the two immunology centers.

Patients with mechanical pumps (1) need on average 4.00 training sessions to initiate a homebased self-administer IgRT. Patients on electronic pumps (2) complete on average 6.63 trainings, which corresponds to 65% more sessions. Under consideration, that a training session lasts up to 2 hours, the electronic pump requires 5.26 more hours of training. Accordingly, the initiation of an IgRT with a mechanical infusion pump costs the patient and the nurse less time and leads to 40% lower cost than to initiate an IgRT with an electronic pump (see *Table 1*).

Cost Analysis	Center (1)	Center (2)
Infusion Pump type	mechanical	electronic
Mean number	4.00 trainings	6.63 trainings
Time per Session	1.5 – 2 hours	1.5 – 2 hours
Mean Duration	8.00 hours	13.26 hours
Hourly rate nursing	£ 22.20	
Total Training	£ 177.60	£ 294.40
Difference	**5.26 hours / £ 116.80**	

Table 1: Nursing Time Cost Analysis

Patient feedback shows that a shorter training time doesn't influence the patient's satisfaction with the training structure nor the patient's ability to be competent and confident to self-administer Subcutaneous Immunoglobulin (SCIg).

Summary/Conclusion:

The results provide valuable insights into the divergent training protocols employed by two UK Immunology centers, allowing for a better understanding of the variations in equipment choices and training duration, tailored to meet patients' needs and ensure adequate understanding and skill development. The most striking differences were shown in the time of training and costs related to nursing resources.

In conclusion, understanding the cost per visit for home therapy training for patients on SCIg, particularly the nursing time costs, is crucial for healthcare providers and administrators. It enables effective resource allocation, budget planning, and optimization of training protocols. By monitoring and analyzing the cost per visit, healthcare providers can make informed decisions to enhance the efficiency, effectiveness, and financial sustainability of home therapy training programs.

Keywords: Therapy, Subcutaneous, Secondary, Immune deficiency