Optimizing Subcutaneous Immunoglobulin Therapy: A Modified Delphi Study on Supply Management and Best Practices in the US Healthcare System

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KORU MEDICAL SYSTEMS

PURPOSE

The purpose of this Delphi study was to inform best practices for managing and selecting ancillary supplies for subcutaneous Immunoglobulin (SCIg) therapy to improve patient outcomes and operational efficiency in home and specialty infusion settings.

BACKGROUND

SCIg therapy is a flexible, patient-centered alternative to intravenous immunoglobulin (IVIg), offering enhanced autonomy and convenience through home administration. Current literature offers general guidance on SCIg administration but lacks detailed consensus on best practices for supply management, infusion site selection, and training requirements. This gap contributes to variability in practice and challenges for both patients and providers.

This Delphi study leverages multidisciplinary expertise to identify consensus and controversy in SCIg supply management, aiming to inform best practices, improve care consistency, and support the growing demand for SCIg therapy in home-based settings.

METHODS

Nine multidisciplinary experts were recruited, representing prescribing providers, pharmacists, and infusion nurses with either recent or extensive experience in supporting, managing, or administering SCIg therapy in the clinical setting. The study consisted of multiple Delphi rounds. In the first round, participants answered ten open-ended questions about best practices for ancillary supply management for patients receiving SCIg therapy. For the second Delphi round, responses and statements collected during the first round were categorized by theme and organized into forced-choice scale (77 items), ranked response (four items), and rated response (20 items) questionnaire items. Participants reviewed, commented on, and ranked responses to identify consensus and areas of controversy. Participants were given the opportunity to clarify responses, achieve greater understanding, and explore opportunities for future research during optional individual interviews during a third and final Delphi round. Four out of the nine original panelists opted to participate in individual interviews. The results of Delphi rounds will be de-identified, clustered, and compared with existing literature surrounding best practices for SCIg infusion.

RESULTS

Key Findings

- Individualized approaches to needle selection, infusion site management, and flow rate adjustments are critical for minimizing adverse reactions and optimizing patient comfort.
- Additionally, the ease of use of infusion systems significantly impacts patient adherence and the need for clinical support, while ongoing education and follow-up are essential for addressing infusion-related challenges.
- The study also highlighted the importance of interdisciplinary collaboration and cost considerations in ensuring effective and patient-centered SCIg therapy delivery.

Consensus Areas

- Consensus emerged among the nine participants within the domains of shared decision-making, selecting needle length and infusion site locations based on individual anatomical variation rather than bodyweight alone, and prioritizing patient-centered approaches (Somewhat Agree 11.1%; Agree up to 44.4%; Strongly Agree up to 56%).
- A simple infusion system with fewer steps was preferred over complex systems due to reduced training and education demands (Somewhat Agree 11.1%; Agree 55.6%; Strongly Agree 22.2%).
- Programmable pumps were generally disfavored due to their potential for errors, added complexity, and maintenance requirements (Somewhat Agree 33.3%; Agree 44.4%; Strongly Agree 22.2%).

Disciplinary Variations

Different priorities were noted across the disciplines of nursing, pharmacy, and prescribing providers, particularly in achieving optimal infusion rates for patients. These variations primarily emerged in the ordered response items, with Kendall's W values between 0.24 and 0.38.

SCIg Indications for Use and Innovation

Participants emphasized the need for clinical trial data on SCIg therapy for autoimmune conditions commonly treated with IVIg and called for innovations such as a non-programmable syringe pump capable of accommodating various syringe sizes.

DISCUSSION

This study underscores the importance of cross-functional collaboration and education at every level of service in SCIg therapy. The findings highlight significant opportunities for improving patient-centered care and operational efficiency in home and specialty infusion. By addressing the identified challenges—such as training burdens, equipment complexity, and limited clinical trial data—specialty infusion providers can better support patients and streamline care delivery. The study's emphasis on individualized infusion practices and simplified systems aligns with the broader healthcare trend toward patient-centric approaches and home-based care.

CONCLUSIONS

This study offers actionable insights to advance SCIg therapy in home and specialty infusion. By establishing expert consensus and addressing gaps in current practices, the findings support the development of clearer guidelines and future innovations. Relevant to the infusion industry, the results provide strategies to enhance patient experiences, reduce staff workload, and improve outcomes. Identified research priorities outline pathways to address data and technical challenges limiting broader SCIg application. As SCIg gains prominence, these findings are crucial for advancing its adoption and optimizing delivery, ensuring its effectiveness and accessibility in home-based care.