



NURSES' TRAINING NEEDS FOR ADVANCED THERAPY MEDICINAL PRODUCTS e.g. CAR T

KEY FINDINGS FROM A QUESTIONNAIRE-BASED SURVEY ON BEHALF OF THE NURSES GROUP OF THE EBMT

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INTRODUCTION

Advanced Therapy Medicinal Products (ATMPs), represent one of the most significant breakthroughs in healthcare in recent years. Delivery of ATMPs involves a complex supply chain and ATMPs including CAR T cells can trigger serious and potentially life-threatening complications. Consequently, this breakthrough is accompanied with additional nurse training needs ranging from basic to advanced depending on centre and country experience. We aimed to determine the ATMP training needs of nurses working in centres delivering or aiming to deliver ATMPs and those caring for repatriated ATMP patients.

METHODS

A cross-sectional survey using an online questionnaire on ATMP training needs was distributed among all nurse representatives of EBMT transplant member centres and nurses known to be employed at centres delivering CAR T therapy. The 25-question survey was based on a previously developed, tested and implemented UK-wide survey, with permission. Questions addressed experience, training level, local procedures, organisational structure and self-assessed priority ranking for ATMP education. Participation was voluntary and anonymous. Survey data were analysed and presented using descriptive statistics. The frequency of each multiple-choice answer is presented as a proportion of all non-missing answers.

RESULTS

From 147 questionnaires returned, the majority of respondents were nurses (95.9%) having 15 or more years of relevant experience (47.6%). Most respondents work at academic centres (84.4%) and mainly care for adult patients (65.3%). ATMP delivery is performed or will be performed in the near future by 63.9% and 13.6% of centres, respectively. Personal experience levels in delivering licensed ATMPs were equally represented, ranging from none (22.1%) or some experience (35.7%) to experienced (35.7%). Experience in delivering unlicensed ATMP was significantly lower, with fewer respondents reporting to be experienced (18.6%) compared to having none (32.1%) or some experience (41.4%). Experience levels associated with training on ATMP basic and procedural knowledge (Figure 1).

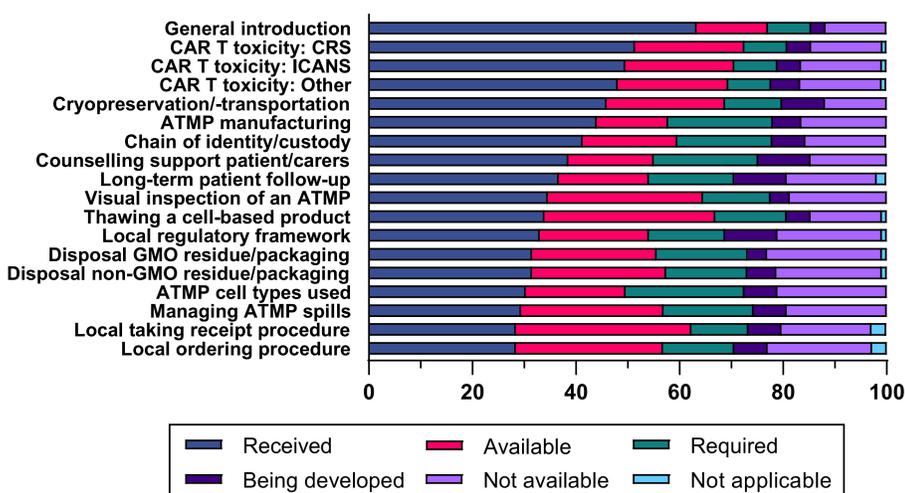


Figure 1. Self-reported current training level of survey respondents for the knowledge areas indicated.

General introductory and patient management knowledge regarding ATMP was received by the majority of the respondents (37.9-51.7% and 38.6-43.4%, respectively).

General introductory and patient management knowledge were also ranked as the knowledge areas having high training priority, together with visual inspection of products and the management of ATMP spills (Figure 2). Knowledge areas on cryopreservation and thawing, chain of identity/custody and local procedures for ordering or taking receipt of ATMPs were most often ranked as low priority.

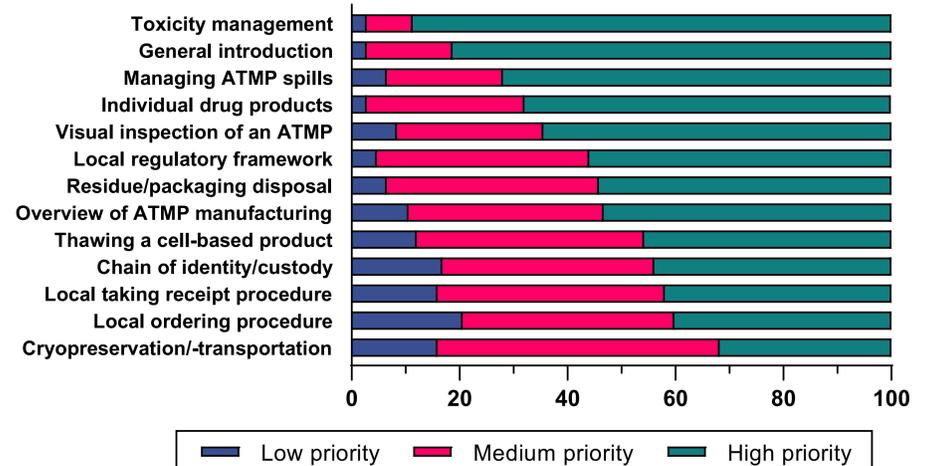


Figure 2. Priority rates given by survey respondents on the development of training resources for the indicated knowledge areas for nurses.

Additionally, respondents suggested benefit from sharing experiences and receiving more nursing-focussed education, especially with regards to therapy side effects and patient management (e.g. patient/family education, expectation management, supportive care).

Table 1. Self-reported training priorities by survey respondents, ranked by frequency.

Self-reported training priorities	Frequency	Percentage
Basic overview	19	12.9
Toxicity and side effects	17	11.6
Continuous/advanced overview	15	10.2
Supportive care patient/family	9	6.1
Long term FU	6	4.1
Infusion problems	3	2.0
Discharge	1	0.7
COVID-19	1	0.7

CONCLUSIONS

Our findings reveal a **clear need for nursing-focussed ATMP education and training** throughout Europe. Nurses caring for advanced therapy patients should undertake education and training specific to this field. General information as well as specific training on patient management, therapy side effects, visual inspection of the product and management of spills are core topics emerging from respondents. Further product-specific training needs should be met and opportunities for nurses to maintain competency levels incorporated. Importantly, the self-expressed need for sharing nursing experiences identified via our survey offers future opportunities for collaborative projects and knowledge sharing.

ACKNOWLEDGEMENTS

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