

Bundle construction and assessment before antineoplastic extravasation

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Abstract

Introduction: extravasation of antineoplastic agents (AA) is defined as the unintentional instillation or extravasation of these AA into the perivascular space and/or surrounding tissues. It is considered an oncological emergency due to the potential of some drugs to cause harm to the patient. The incidence of extravasation varies greatly. Estimates between 0.01% and 7% are observed in various publications. However, when analyzing the number of adverse events (AE) associated with antineoplastic therapy (AT), the absolute number of extravasations becomes significant. The result can be potentially overwhelming, with long-term implications such as the accuracy of reconstructive surgery and permanent nerve damage.

Objective: construct and assess the content of a prevention and management bundle regarding the extravasation of antineoplastic agents in adult cancer patients. **Methods:** there were three-step methodological study: Scoping Review, bundle construction and expert material assessment. It was developed according to the methodological framework of Pasquali psychometry. It is noteworthy that the bundle was divided into a module with measures to prevent antineoplastic extravasation and another module with conduits before extravasation. The bundle construction stage initially included 64 items, distributed in two modules. The first module focused on prevention measures of antineoplastic extravasation in adult cancer patients. It was subdivided into five modalities: 1) those preventive actions regarding patients, 2) regarding the appropriate device for puncture, 3) regarding the puncture site, 4) regarding the infusion and 5) regarding the nursing staff. The second module addressed the conducts facing antineoplastic extravasation in adult cancer patients. It was subdivided into three modalities: 1) the general instructions, 2) the specific instructions and 3) how to use the antidotes and compresses. Each modality had its respective items (which were identified by a letter or number in ascending order). According to

evidence-based practice, the studies were analyzed and classified hierarchically according to the proposal of Melnyk and Fineout-Overholt. This proposal organizes the levels of evidence into: level I - derived from systematic review or meta-analysis of randomized controlled trials or clinical guidelines based on systematic reviews of randomized controlled trials; level II - derived from at least one well-designed randomized controlled trial; level III - obtained from well-designed clinical trials without randomization; level IV - from well-designed cohort and case-control studies; level V - originated from systematic review of descriptive and qualitative studies; level VI - derived from a single descriptive or qualitative study; level VII - from the opinion of authorities and/or expert committee reports. For content assessment, the Delphi technique was applied in two rounds (Delphi I [13 judges] and Delphi II [nine judges]) and those items with Content Validation Coefficient (CVC) greater than 0.78 and more than 80.0% consensus. Data were analyzed using descriptive and inferential statistics (Binominal Test). The study was approved by the Research Ethics Committee of the Universidade Federal de São João del-Rei, under Opinion 2.010.532. It is a subproject of an umbrella research entitled “collective construction of protocols and manuals”. It was developed by the research group called “lifecycle oncology” and registered in the research group directory of the Brazilian National Council for Scientific and Technological Development (CNPq - Conselho Nacional de Desenvolvimento Científico e Tecnológico). **Results:** All bundle requirements reached agreement among judges greater than 80.0%, and all items achieved statistically significant assessment levels. At the end of Delphi II, both bundle modules were expressively valid (prevention of antineoplastic extravasation [CVC=0.93] and ducts before extravasation [CVC=0.96]). In the bundle construction, it was evidenced that, to the initial format, no items previously listed were added. The changes made consist essentially of objectivity (the recommendations allow the desired objective to be achieved), simplicity (the items express a single idea and allow proper

understanding), clarity (the content is clearly and unambiguously explained), in accuracy (each item of the tool is distinct from the others, not to be confused) and in the modality (vocabulary is adequate, without generating ambiguities). They resulted in increased agreement. The completed bundle had 57 items distributed in both modules (Annex 1).

Conclusion: bundle content has demonstrated high credibility and its adoption in health institutions can contribute to the quality of care and conduct of professionals facing the extravasation of antineoplastic agents in adult cancer patients.

Biography:

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Speaker Publications:

Melo JMA, Oliveira PP, Rodrigues AB, Souza RS, Fonseca DF, Gontijo T F, Silveira EAA. Bundle construction and assessment before antineoplastic extravasation: a methodological study. Acta Paul Enferm 2020, 33: eAPE20190075

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