

Patients Undergoing Chemotherapy Desensitization: A Pilot Study on Emotional Impact of Hypersensitivity Reactions and Evaluation of a Printed Educational Tool

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Introduction. Hypersensitivity reactions (HSRs) to chemotherapy agents represent a major clinical challenge in oncology and may lead to the interruption of potentially life-saving treatments. Rapid desensitization protocols enable many patients with prior HSRs to safely continue first-line therapies. However, the psychological burden associated with these reactions is often underestimated. The aim of this study was to assess the emotional impact of chemotherapy-related HSRs and to evaluate whether a written educational tool provided during desensitization could reduce patient-reported anxiety.

Methods. A randomized two-group pilot study was conducted including 70 adult cancer outpatients undergoing rapid desensitization at a cancer center in Southern Italy. All participants received standard multidisciplinary care. The intervention group (n = 37) additionally received a validated printed information leaflet delivered midway through the desensitization protocol and reinforced by a brief nurse-led educational conversation. Anxiety and emotional distress were assessed at the beginning (T0) and at the end (T1) of the procedure using the Generalized Anxiety Disorder-7 (GAD-7) and the

Hospital Anxiety and Depression Scale (HADS). Data were analyzed using paired and independent t-tests, ANCOVA, and linear mixed-effects models.

Results. Participants were predominantly female (81.4%), with a mean age of 61 years. Baseline distress was high: 50% of patients met the GAD-7 clinical threshold and 68.6% scored above the HADS total cut-off. Mean GAD-7, HADS-A, and HADS-D scores showed small decreases from T0 to T1 in both groups; however, no statistically significant within- or between-group differences were observed (all $p > 0.05$; negligible to small effect sizes). Multivariable models confirmed no independent effect of the leaflet beyond baseline anxiety levels.

Discussion. Cancer patients undergoing desensitization for chemotherapy-related HSRs represent a psychologically vulnerable subgroup with markedly elevated anxiety and emotional distress. In the context of comprehensive multidisciplinary counseling, a single written information leaflet did not significantly reduce anxiety or depressive symptoms during the procedure. Routine psychological screening and more intensive, multimodal, and longitudinal supportive interventions appear warranted within allergologic-oncologic desensitization pathways.

Keywords: Chemotherapy Desensitization, Hypersensitivity Reactions, Anxiety

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