

Compliance Aids in Elderly Medication Packaging: Comparative Study of Portugal and France

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Introduction

Primary and secondary packaging artwork, including pictograms (PIC) and calendars (CAL), is critical to improving patient compliance and ensuring drug safety and efficacy.¹ PIC simplify instructions and highlight critical information, while CAL help track dosing schedules. Older patients, who are often polymedicated, visually or cognitively impaired, and/or have low literacy levels, particularly benefit from such aids to manage multiple medications.²

Objectives

This study aims to identify medication adherence strategies (AS) in packaging and compare their incidence in Portugal (PT) and France (FR) using a convenience sample, examining correlations between selected parameters.

Methods

Data were collected by 3rd-year pharmacy students from elderly participants (inclusion criteria: over 65 y.o., taking ≥ 2 medications) and included patient demographics and therapeutic habits. Medications were classified by country of origin, route of administration (ROA), type (generic/brand), dispensing regime (subject to prescription or not), and by therapeutic group. The use of PIC, CAL, and other AS (e.g., dose counters, simplified instructions, easy-open systems) were identified and categorized. Descriptive statistics compared results between PT and FR; associations between variables were established using the chi-square test of independence (5% level of significance; IBM SPSS 20). The study was approved by the Egas Moniz Ethics Committee (file no. 12/30, 25/5/2023).

Results and Conclusions

The sample consisted of 144 elderly (average age

77.3 y.o.), corresponding to 656 medicines (i.e., 4.6/elderly) originating mainly from PT (73.9%) and FR (21.2%). Statistical analysis shows a significant association between AS on the packaging and the ROA ($p<0.001$), type of drug ($p=0.019$), dispensing regime ($p=0.043$), and country of origin ($p<0.001$). Medicines intended for the oral route stand out for the lack of AS on the packaging (71.5%); when present, these are mostly PIC (15.1%) and CAL (11.6%). The parenteral route is notable for the prevalence of other forms of adherence, such as dose counters (30.8%). Noteworthy is that the prevalence of PIC is significantly higher in generic (18.8%) and non-prescription drugs (32.3%), while CAL are more prevalent in brand (13.7%) and prescription drugs (12.2%). The findings also indicate that FR exhibits a higher prevalence of these AS compared to PT, suggesting a more robust adoption of patient-friendly packaging. Medications intended for use in the cardiovascular system (e.g., antidiabetic, antihypertensive, and antithrombotic drugs) account for 53.6% of the medicines with AS, followed by the GI tract (10.4%) and CNS (9.4%). The fact that 98.8% of the medications that utilize AS are meant for chronic conditions, reflects the need for strict adherence in managing these diseases. Further studies with larger and diverse samples are recommended to validate and expand upon these findings.

References

1. Sletvold H, Sagmo LAB, Torheim EA. Impact of pictograms on medication adherence: A systematic literature review. *Patient Education and Counseling*. 2020; 103(6): 1095-1103. <https://doi.org/10.1016/j.pec.2019.12.018>
2. Tandy C, Bamford L. Medication compliance aids. *European Geriatric Medicine*. 2010; 1(5): 314-316. <https://doi.org/10.1016/j.eurger.2010.07.013>