

MAGISTRAL SLIMMING: WHAT ARE THE RISKS?

Dulce Laúdo¹, Tânia Fernandes¹ and Ana I. Fernandes¹

¹PharmSci Lab, CiiEM – Centro de Investigação Interdisciplinar Egas Moniz, Instituto Universitário Egas Moniz, Monte de Caparica, Portugal
aifernandes@egasmoniz.edu.pt

INTRODUCTION

Magistral formulas (MF) are prepared by the pharmacist for a given patient according to a prescription and following technical and scientific compounding standards. MF are often used in weight loss regimens and contain blends of drugs (D) and plant (P) extracts. Associations potentiate interactions and related adverse effects, compromising effectiveness and risking the patient's health (1,2).

The purpose of this work was to give an overview of MF intended for slimming, prescribed by doctors, in a perspective of efficacy and safety.



MATERIALS AND METHODS

Slimming MF (prescribed to overweight women, as hard gelatine capsules, once or twice daily) were analyzed in terms of labelled drug/bioactive composition and dosage, therapeutic indication/claim, recommended daily dose (RDD), side effects/interactions and contraindications. Written consent for data use was obtained from patients.

RESULTS

- MF did not contain unlawful ingredients (3); these were used mostly in sub therapeutic doses (Table 1).
- Weight loss is a result of (a) side effect of D-III/IV (off-label use), (b) water loss due to therapeutic action (D-I/IX and P-V/VII/VIII), or (c) claimed appetite reduction (P-VI/X/XI).

Active ingredient (AI)	Main therapeutic indication / claim	MF1	MF2	MF3	MF4	MF5	MF6	MF7	Usual posology in major pathology
Furosemide ^I	Diuretic	20	25		18	18	30		20-80/120 mg/day
Chlordiazepoxide ^{II}	Anxiolytic	8	8		8	8	10		30 mg (3 times/day)
Bupropion ^{III}	Antidepressant	120	100		140	150	130		150 mg (2 times/day)
Metformine ^{IV}	Antidiabetic	280		250	300	300	260		500 mg (2/3 times/day)
Artichoke ^V	Laxative	110	400						500 mg/day *
Bitter orange (<i>Citrus aurantium</i>) ^{VI}	Appetite reducer	150			200	200	200	200	50-100 mg/day *
<i>Centella asiatica</i> L. ^{VII}	Anti-cellulite, venotonic		400	400				750	60-120 mg/day *
Cascara Sagrada (<i>R. purshiana</i>) ^{VIII}	Laxative		100		130		120		150-325 mg/day *
Phenolphthalein ^{IX}	Laxative	65	100			90	85		30-200 mg/day
Glucomannan (<i>A. konjac</i>) ^X	Appetite reducer							500	1000-13000 mg/day *
Slimalluma (<i>Caralluma fimbriata</i>) ^{XI}	Appetite reducer		300	250					500 mg (2 times/day) *

Table 1. MF labels composition and dose (mg); roman superscripts identify the substance in the text. *RDD not well established

DISCUSSION AND CONCLUSIONS

- Off-label uses of drugs and efficacy of sub therapeutic doses are questionable.
- D-II and D-III present risk of abuse and dependence. Combination of laxatives (MF 1,2 and 6) is not recommended, increasing the chances of electrolyte imbalance and dehydration, and reducing absorption of ansa diuretics.
- Clinical data to support the claims and posology of botanicals is scarce and contradictory; moreover, potential side effects/interactions are at times unknown and adulteration/contamination is a risk.
- Of note is the potential for interaction of P-V (inhibiting several isoenzymes of CYP450) and the association of D-I/P-V may cause hypovolemia and hypocaliemia.
- Even if no additional interactions were found between molecules, combinations may increase the risk of adverse events. Severe/fatal interactions may occur with other drugs (e.g. D-II + opioids; D-III + MAO inhibitors), so knowledge of patient's clinical history and related medication is of the utmost importance, when prescribing and counselling.
- Evaluation of safety and efficacy of MF is a shared responsibility of doctor and pharmacist and requires robust scientific data, especially regarding botanicals.
- Slimming medication alone, without lifestyle changes, is not effective in the long term and may be risky.

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