

Herbal weight-loss products: how informed are we?

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Abstract

Objective: Non-prescription, weight-loss products are advertised as quick-solution alternatives to long-term lifestyle changes.

Design: Cross-sectional descriptive.

Setting: Free State province.

Subjects: Fifty-six dietitians registered to the Free State branch of the Association of Dietetics in South Africa, excluding lecturers and students, and 88 pharmacists working in the Bloemfontein area.

Outcome measures: Structured telephonic interviews were conducted with 25 dietitians and 46 pharmacists to ascertain whether or not they had heard of the individual ingredients listed in non-prescription, weight-loss products and if they knew if each of these ingredients were scientifically proven to induce weight loss.

Results: Most dietitians and pharmacists reported that they had heard of green tea extract (92% and 89%), chromium picolinate (76% and 59%), apple cider vinegar (100% and 96%), lemon juice (100% and 87%) and alcohol (100% and 91%), respectively, being ingredients in weight-loss products. More dietitians and pharmacists reported that, to their knowledge, green tea extract (52% vs. 26%), chromium picolinate (52% vs. 15%), apple cider vinegar (64% vs. 33%), lemon juice (80% vs. 64%) and alcohol (76% vs. 61%), were not scientifically proven to be effective in attaining weight loss. Both groups included a percentage who were not familiar with the ingredients, or who thought that these ingredients had been demonstrated to be effective, despite no conclusive evidence existing in the literature.

Conclusion: Healthcare professionals need to actively educate themselves about non-prescription weight-loss products in order to guide the public and reduce consumer confusion.

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Introduction

Successful weight loss requires commitment and long-term lifestyle changes to decrease energy intake and increase physical activity. By contrast, freely available diet remedies are advertised as quick solutions which promise to induce weight loss with little or no effort. No statistics are available on the use of these products in South Africa. However, in the USA, nationwide surveys have found that among adults who had seriously attempted to lose weight, 44.9% of women and 19.8% of men reported using non-prescription, weight-loss products,¹ while substantial numbers of adolescents (14.4% females and 7.2% males)² also claimed to have used these products. Non-prescription weight-loss products are aggressively marketed, often with little or no scientific proof of efficacy and safety in humans.¹ In particular, herbal weight-loss products are

perceived by the public to be “natural” and therefore harmless.¹ In many countries, including the USA and South Africa, by law, these herbal weight-loss products are classified as dietary supplements. Therefore, they escape strict regulation of their availability, as well as the advertising and labelling claims which are made about their efficacy and safety.¹ For this reason, the responsibility to provide evidence-based guidance to the consumer on these products reverts to healthcare professionals. This study aimed to assess the extent to which dietitians and pharmacists in central South Africa are informed about the ingredients of a specific, popularly used, herbal weight-loss product.

Method

In this study, claims that a popular over-the-counter, herbal product may assist in weight loss were evaluated for validity by assessing

Table 1: Knowledge of dietitians and pharmacists relating to the ingredients of a popular herbal weight-loss product

| Have you ever heard of the following ingredients as part of a weight-loss product? | | | | | To your knowledge are the following ingredients scientifically proven to be effective in achieving weight loss? | | | | |
|--|---------------------|-----|----------------------|----|---|---------------------|----|----------------------|----|
| Ingredient | Dietitians (n = 25) | | Pharmacists (n = 46) | | Ingredient | Dietitians (n = 25) | | Pharmacists (n = 46) | |
| | n | % | n | % | | n | % | n | % |
| Green tea extract | | | | | Green tea extract | | | | |
| Yes | 23 | 92 | 41 | 89 | Yes | 5 | 20 | 17 | 37 |
| No | 2 | 8 | 5 | 11 | No | 13 | 52 | 12 | 26 |
| | | | | | Do not know | 7 | 28 | 17 | 37 |
| Kola nut extract | | | | | Kola nut extract | | | | |
| Yes | 7 | 28 | 9 | 20 | Yes | 5 | 20 | 8 | 17 |
| No | 18 | 72 | 37 | 80 | No | 20 | 80 | 38 | 83 |
| | | | | | Do not know | | | | |
| Bladder wrack | | | | | Bladder wrack | | | | |
| Yes | 4 | 16 | 12 | 26 | Yes | 1 | 4 | 6 | 13 |
| No | 21 | 84 | 34 | 74 | No | 7 | 28 | 5 | 11 |
| | | | | | Do not know | 17 | 68 | 35 | 76 |
| Chromium picolinate | | | | | Chromium picolinate | | | | |
| Yes | 19 | 76 | 27 | 59 | Yes | 5 | 20 | 13 | 28 |
| No | 6 | 24 | 19 | 41 | No | 13 | 52 | 7 | 15 |
| | | | | | Do not know | 7 | 28 | 26 | 57 |
| Apple cider vinegar | | | | | Apple cider vinegar | | | | |
| Yes | 25 | 100 | 44 | 96 | Yes | 2 | 8 | 18 | 39 |
| No | | | 2 | 4 | No | 16 | 64 | 15 | 33 |
| | | | | | Do not know | 7 | 28 | 13 | 28 |
| Lemon juice | | | | | Lemon juice | | | | |
| Yes | 25 | 100 | 40 | 87 | Yes | 1 | 4 | 4 | 8 |
| No | | | 6 | 13 | No | 20 | 80 | 29 | 64 |
| | | | | | Do not know | 4 | 16 | 13 | 28 |
| Alcohol | | | | | Alcohol | | | | |
| Yes | 25 | 100 | 42 | 91 | Yes | 1 | 4 | 2 | 4 |
| No | | | 4 | 9 | No | 19 | 76 | 28 | 61 |
| | | | | | Do not know | 5 | 20 | 16 | 35 |

the scientific evidence on each of the ingredients, individually or combined, with regard to achieving weight loss. An in-depth literature review was carried out, in which systematic reviews and randomised controlled trials were considered to provide high-quality evidence.

The 56 dietitians registered to the Free State branch of the Association of Dietetics in South Africa, excluding lecturers and students, and 88 pharmacists working in the Bloemfontein area, were contacted during working hours for a structured telephonic

interview to evaluate whether or not they had heard of each of the individual ingredients on the list (the product itself was never mentioned), and to test their knowledge of whether or not each of the ingredients was scientifically proven to induce weight loss. Many of the professionals indicated that they did not have time to answer the questions, some telephone numbers were not in use, and several calls went unanswered. Interviews were conducted with 25 dietitians and 46 pharmacists; a response rate of 45% and 52% respectively.

The Ethics Committee of the Faculty of Health Sciences of the University of the Free State (ETOVS Stud Nr 01/2011) approved the study.

Results

Few randomised controlled trials could be found that have tested the efficacy of any of the ingredients in this product in achieving weight loss (Table I). Chromium picolinate was the only ingredient for which a systematic review, based on several randomised controlled trials, was found. The review concluded that the evidence does not support the efficacy of the ingredients in achieving weight loss.³

Sixty per cent of the dietitians and 54% of the pharmacists included in the survey, graduated between 2000 and 2010. Fifty-eight per cent of dietitians and 74% of pharmacists in the survey, had been practising their profession for longer than five years.

Most of the dietitians and pharmacists (Table I) reported that they had heard of green tea extract (92% and 89%), chromium picolinate (76% and 59%), apple cider vinegar (100% and 96%), lemon juice (100% and 87%) and alcohol (100% and 91%), respectively, as ingredients contained in weight-loss products. More dietitians and pharmacists reported that, to their knowledge, green tea extract (52% vs. 26%), chromium picolinate (52% vs. 15%), apple cider vinegar (64% vs. 33%), lemon juice (80% vs. 64%) and alcohol (76% vs. 61%) had not been scientifically proven to be effective in achieving weight loss. However, both groups included a percentage of professionals who were not familiar with the ingredients, or who thought that these ingredients had proved to be effective.

Most of these professionals were not familiar with kola nut extract (a caffeine-containing tree nut from tropical rain forests),⁴ and bladder wrack (a form of seaweed that is claimed to enhance thyroid activity),⁵ although these ingredients appear in many over-the-counter weight-loss products. Most of the interviewees (80% of dietitians and 83% of pharmacists) reported that, to their knowledge, kola nut was not scientifically proven to assist in achieving weight-loss, and most of them (68% of dietitians and 76% of pharmacists) reported that they did not know whether or not bladder wrack had been scientifically proven to assist in attaining weight loss.

Discussion

This survey highlights that dietitians and pharmacists are not familiar with the ingredients of popular non-prescription weight-loss products. Many of them did not know whether or not these ingredients had

been scientifically proven to be effective in achieving weight-loss. Chromium picolinate was included in the list of ingredients in this study and has been used in weight-loss remedies since the 1980s. It has been the subject of many reviews which have consistently found insufficient evidence to support its efficacy in achieving weight loss,³ yet 20% of dietitians and 28% of pharmacists in the study thought that it was scientifically proven to be effective, while seven dietitians (28%) and 26 pharmacists (57%) reported that they did not know. Consumers tend to believe that herbal remedies are safe because they are “natural”, yet many herbal ingredients have been linked to serious side-effects. Consumers are often unaware of potential interactions between herbal ingredients and prescription drugs.¹ For example, chronic kidney disease, due to interstitial nephritis, has been described with the long-term use of bladder wrack tablets.⁴ Studies have demonstrated that even healthcare professionals are often unaware of complications that pertain to herbal remedies.⁶

Conclusion and recommendations

Healthcare professionals should actively educate themselves on the efficacy and safety of ingredients that are commonly used in non-prescription diet supplements and weight-loss products. They should also make an effort to collaborate with each other across different disciplines in order to provide consistent, evidence-based advice to guide the public and reduce consumer confusion about herbal weight-loss products.

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