Brazilian dietary supplements: consumer profile evaluation and chemical composition analysis.

Rodrigo Ramos da Silva Chaves (IC), Ana Paula Badan Ribeiro (PQ), Maria Teresa Bertoldo Pacheco (PQ), Caroline Dário Capitani (PQ).

Abstract
Dietary supplements have been used by a big variety of people. However, differences between the nutritional values suggested by the labelling of these supplements and their true nutritional values have been shown both by the media and in published scientific papers. In addition, the exact profile of those who consume supplements may vary among places. Thus, this article aims to describe the consumer profile of a certain region and it analyzed Brazilian supplements and compared the nutrients described on labels with those evidenced through laboratorial analysis.

Key words: Consumer profile, Dietary supplements, Nutritional facts

Introduction
Dietary supplements have been gaining more space in the everyday life of Brazilians, be it among elite athletes, amateur athletes, sportsmen or people with some pathology. In General, consumers of supplements believe in the information written on labels. However, few supplements may have differences between the nutritional values suggested by the labelling and their true nutritional values and possibly other components as well. This difference may affect negatively the health of those who consume these products. Thus, this article described the consumer profile of these supplements from the district of Barão Geráldio, Campinas – SP, analyzed the most consumed supplements by this population, and compared the nutrients described on labels with those evidenced through laboratorial analysis.

Results and Discussion
In relation to the consumer profile from the Barão Geráldio district, most of them are male (81.6%), who practice physical activities (96.84%) and are between 18-25 (33.68%) and 26-30 (26.84%) years old. Because this district has many university students/works, most of the consumers had already completed their undergraduate degree (30.69%) and many were engaged in it (28.71%). The majority of the products consumed was indicated by the seller (42.08%) and/or gym instructors/personal trainers (24.75%), people who, according to the law, cannot do that.

From the 16 analyzed supplements, only 3 had their protein concentrations different from what was written on their label (Chart 1). The amino gram confirmed that the protein source for Whey Protein, Casein and Albumin was correct, likewise the amino acids of BCAAs and Glutamines. There were no irregularity for minerals when compared to labels, however the iron concentration, which is not specified on labels, showed elevated levels in a few products, possible arising from contamination of machines where these products are processed.

Chart 1. Difference in protein concentration in three different brands of Whey Protein Concentrated (WPC), BCAA and Mass Gainer.

<table>
<thead>
<tr>
<th>Supplement</th>
<th>Laboratory (%)</th>
<th>Label (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPC</td>
<td>12.19</td>
<td>71.43</td>
</tr>
<tr>
<td>BCAA</td>
<td>55.76</td>
<td>82.88</td>
</tr>
<tr>
<td>Hipercalórico</td>
<td>2.63</td>
<td>16</td>
</tr>
</tbody>
</table>

Conclusions
It can be concluded that among these 16 supplements, the majority had content declared on labels correct, according to the laboratorial analysis, offering no risks to consumers. Although, we notice the need of routine analysis to supervise companies and supplements marketed once a few products had less nutrient content as informed on their labels.

Acknowledgement