



# Evaluation of fruit and vegetable consumption as phytonutrient potential in Jordan



Yonna Sacre<sup>1</sup>, Rachad Saliba<sup>2</sup>, Michael H. Böhme<sup>1</sup>

<sup>1</sup>Humboldt-Universität zu Berlin, Faculty of Life Sciences, Dept. Horticultural Plant Systems, Lentzeallee 75, D-14195 Berlin

<sup>2</sup>Lebanese University, Faculty of Agriculture, Beirut, Lebanon

[yonna.sacre@gmail.com](mailto:yonna.sacre@gmail.com); [michael.boehme@cms.hu-berlin.de](mailto:michael.boehme@cms.hu-berlin.de)

## Introduction

The Mediterranean diet is well known regarding the high content of vitamins, minerals and phytonutrients in fruits, vegetables, grains and olive oil. Moreover, also bioactive compounds in particular in vegetables have a health improving effect. Jordan was selected to analyze and evaluate the fruit and vegetable consumption as sources of phytonutrients and the consumer awareness of health linkages. After studies in Lebanon, it was to find out whether the Jordanian population is a typical Mediterranean example of good fruit and vegetable consumers. The aim of this study was to clarify the relationship between the economic situation, gender differences, lifestyle and other criteria on the fruit and vegetable consumption in Jordan. The fruit and vegetable consumption was analyzed based on a survey in Amman. The data were evaluated in order to get an assessment of the frequency of consumption of these food products and the awareness of the population regarding the importance of fruit and vegetable consumption and their valuable content of phytonutrients.

## Research Methods

The below methods exist to assess the dietary consumption of fruits and vegetables.

### Study population:

- 150 healthy Jordanians individuals, 70 males, 80 females.
- Aging between 20 and 65 years old.
- Randomly selected from Amman.

### Tool:

Questionnaire constituted of the following sections:

**Part I:** Socio- demographic questions

**Part II:** Personal question

**Part III:** Food habits and food frequency questions

**Part IV:** Awareness questions

**Part V:** Fruits and vegetables frequency questionnaire



## Results

Almost half of the Jordanian population (54%) have a high level of awareness, and are taking into consideration the important effects of phytonutrients and bioactive compounds available in fruits and vegetables (Fig.1).

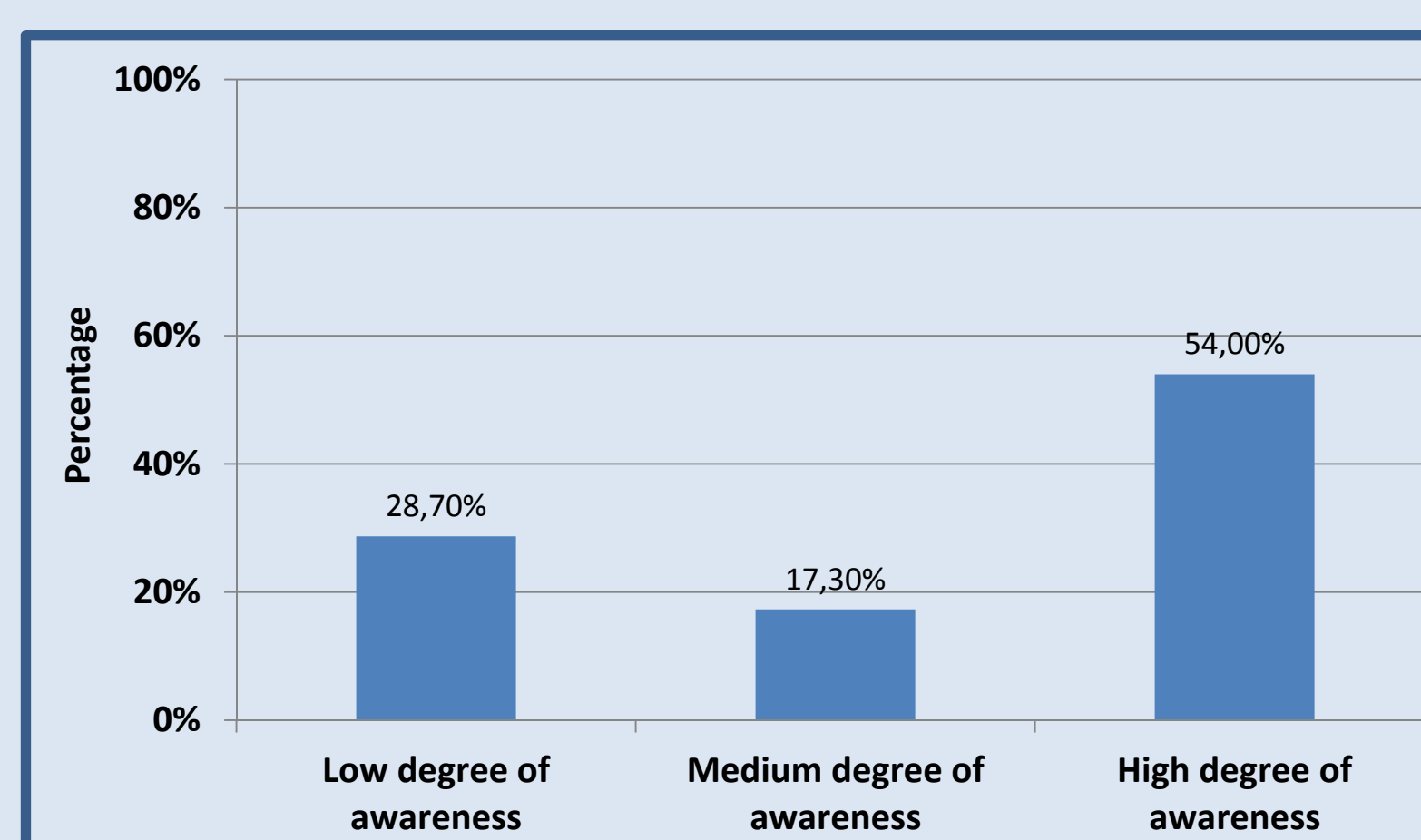


Fig 1: General degree of awareness regarding phytonutrients



A significant difference in vegetable consumption compared to the different age ranges is observed (Fig. 2). Weight loss diet was affecting the level of vegetables consumption among the Jordanian respondents, 56.5 % of people on diet have a high consumption of vegetables (Fig. 3).

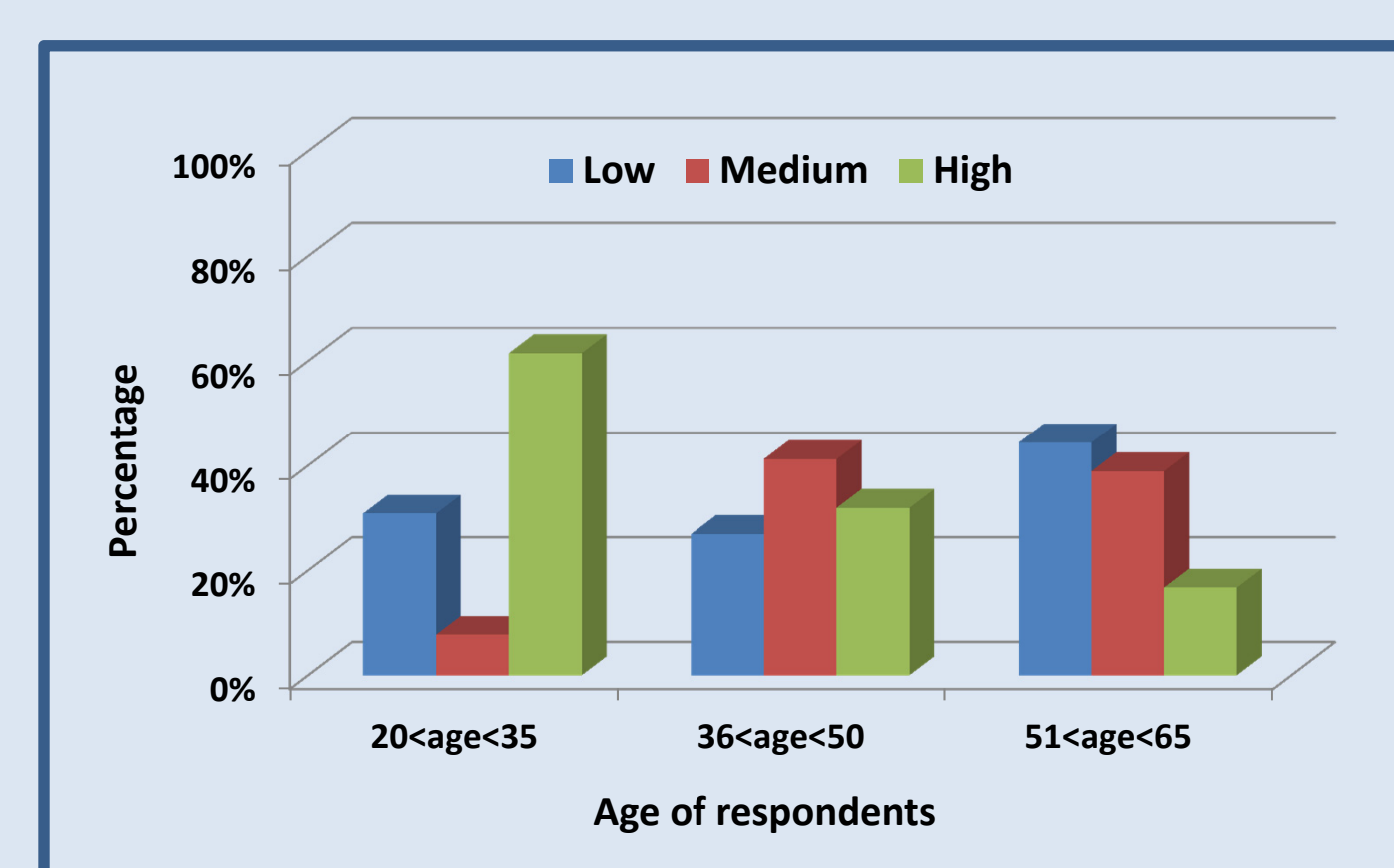


Fig. 2: Distribution of vegetables consumption based on age categories

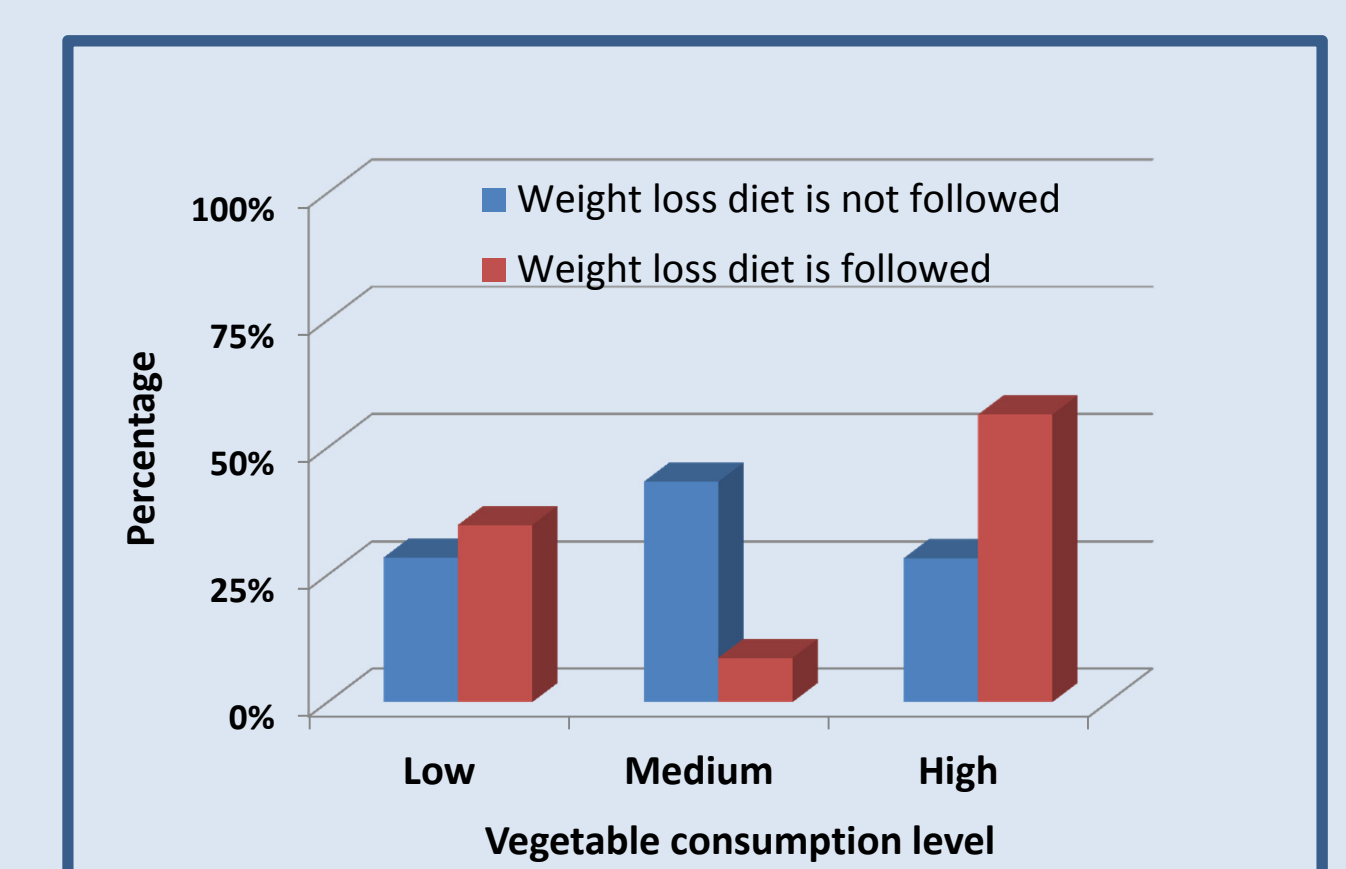


Fig. 3: Distribution of vegetables consumption based on weight loss diet

A significant difference of fruits consumption is noted based on whether the participants are employed or not but not affected by the salary (Fig. 4). The people spending the lowest amount of expense on food, have the tendency to consume less vegetables compared to the others in Jordan (Fig. 5). On the other hand, the expense per month for the purchase of fruits and vegetables has an effect on the fruits consumption (Fig. 6). Based on the answers of the respondents was it possible to understand the most frequently consumed vegetables, fruits and herbs per year in Amman/Jordan (Fig. 7).

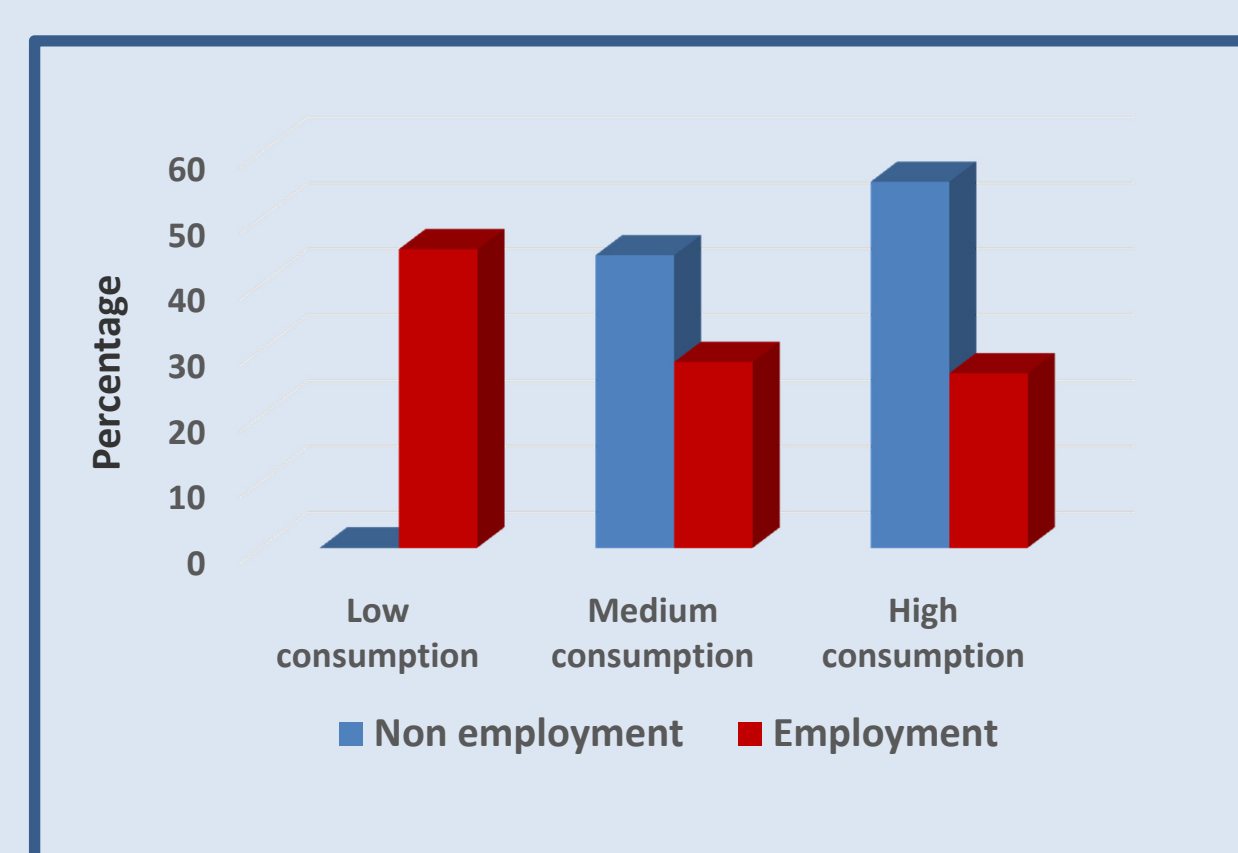


Fig. 4: Distribution of fruit consumption according to employment

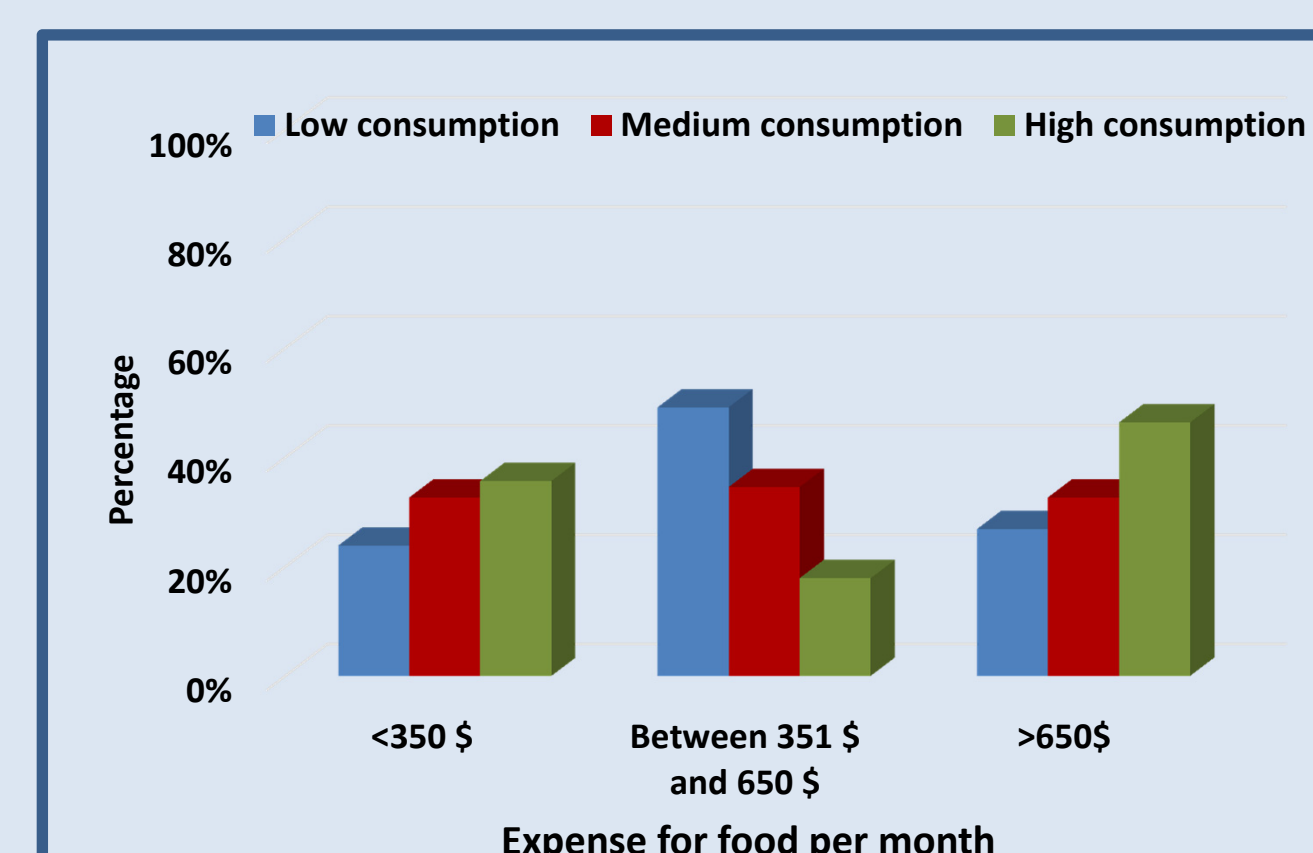


Fig. 5: Vegetable consumption based on the monthly expense for food.

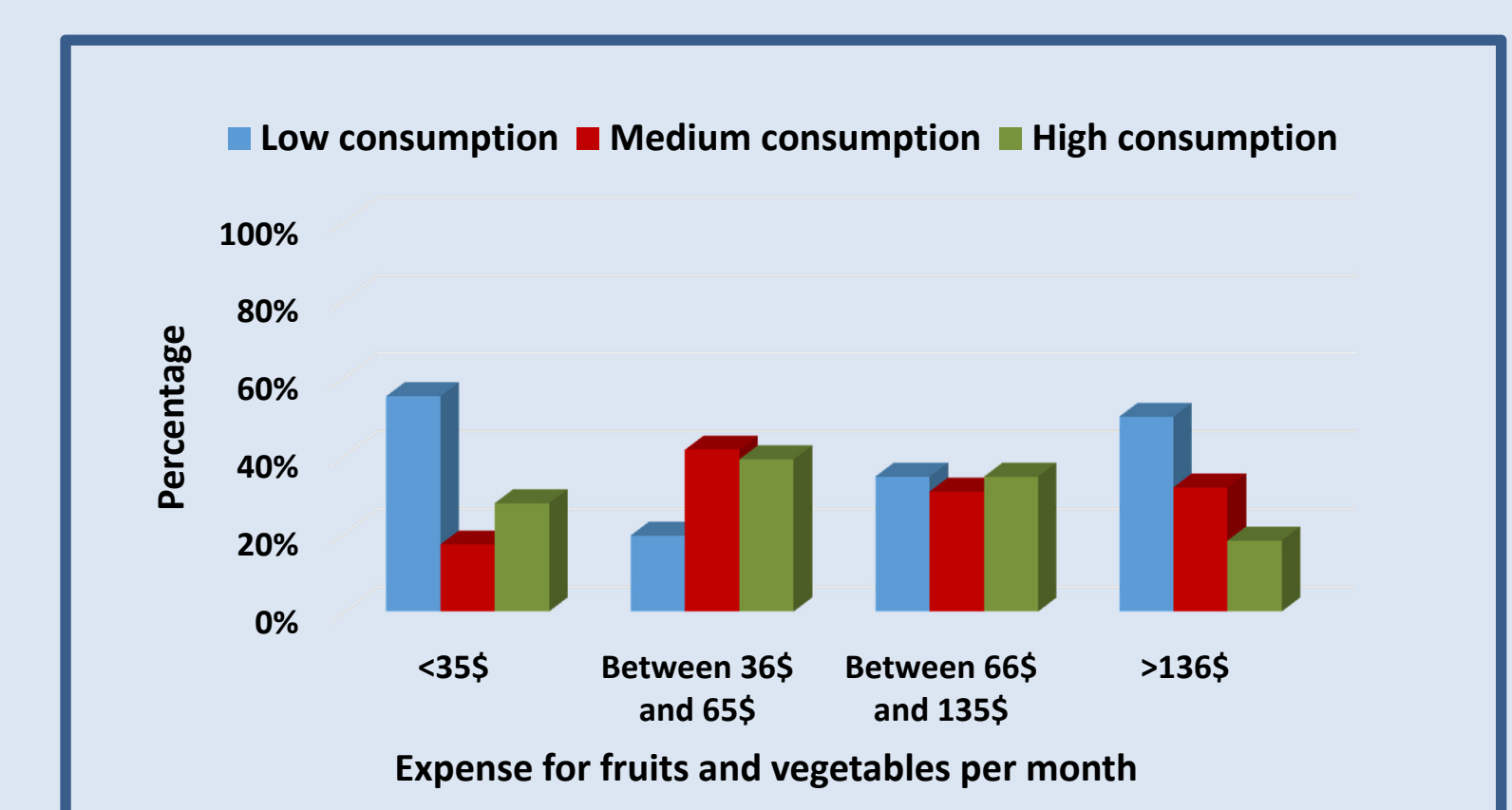


Fig. 6: Fruit consumption based on the monthly expense for fruits and vegetables.

## Conclusion

- In general it can be concluded that the awareness of the consumers in Jordan regarding the health linkages and the consumption of fruits and vegetables is comparable high.
- The levels of fruit consumption were affected by the study population employment but not the their salary.
- The budget assigned for food consumption on a monthly basis influenced the vegetables consumption.
- The budget assigned for vegetables and fruits consumption on a monthly basis influenced the fruits consumption.
- Future governmental or national programs and interventions could be settled to encourage and increase the fruit and vegetable consumption among the population age levels and areas of residence.

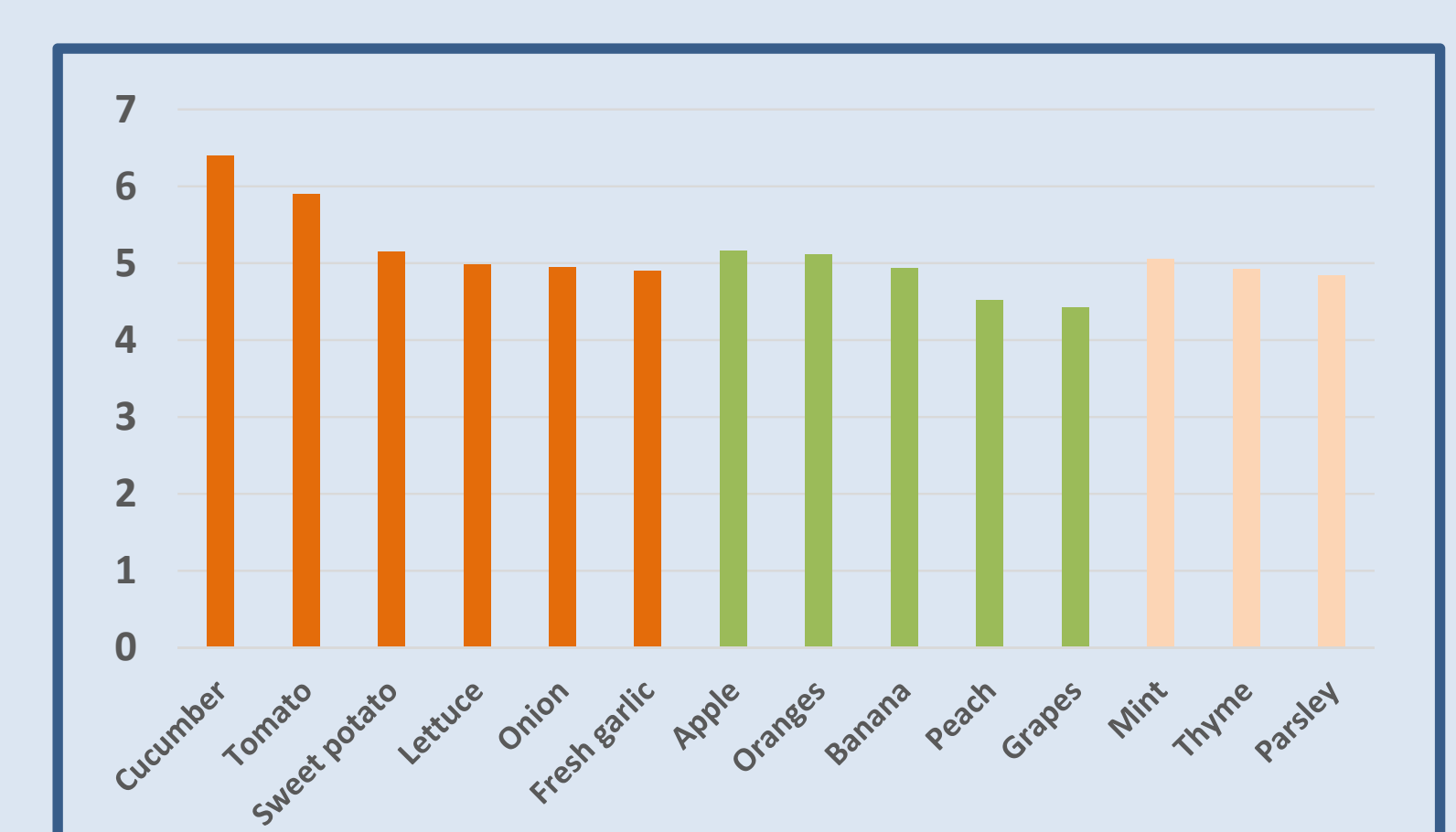


Fig. 7: Most frequently consumed vegetables fruits and herbs per year in Amman/Jordan