A STUDY OF THE POSSIBLE CORRELATION BETWEEN THE CONSUMPTION OF DIFFERENT SIZES OF PANTS AND THE INCREASED BODY MASS OF A DETERMINED POPULATION OF WORKERS

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ABSTRACT

The number of the obese increases day by day. Excess body fat is one of the greatest health problems. This study intends to demonstrate the statistical variation of the sizes of pants sold by a manufacturer of work uniforms in the city of Campinas, São Paulo, Brazil. Between 1990 and 2002, this will probably serve as verification of altered body weight. A computer program collected statistical data from the uniform company. This permitted accessing its data bank of sales during the period studied. The population studied consisted of 1,360 workers (n=1360) in the restaurant and hotel sectors between 30 and 45 years old and 982 workers (n=982) between 31 and 47 years old in the guard, restaurant and driver sectors who periodically acquire the same type of pants. By means of the data collected we noted that both sexes showed a drop in the consumption of small sized pants with a concomitant rise in the consumption of large and extra large pants; the consumption of medium sized pants remained stable. As a way to control and prevent obesity and increased body weight, we propose adopting a more balanced diet of nutrients and an increase of the regular and systematic practice of physical activity for a healthier and more active life style.

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INTRODUCTION

Obesity is a serious health problem which incidence has been increasing not only in rich country but also in developing countries (COBRA, 2001; RIBEIRO, 2001; NAHAS, 2001).

Causes for increase in body weight and obesity are related to sedentarism, alimentary disturbs, reduction of energetic consumption, emotional alterations, social, cultural, metabolic, genetic and racial factors (FRANGIPANI; PERES, 1996; FISBERG, 1993; ZIOCHEVSKY, 1996; BOUCHARD, 1991; WING et al., 1991; POEHLMAN et al., 1995; RUIZ; RUIZ, 1993; NAHAS, 1999).

In Brazil the problem is the same. There are population inquires in the country revealing a substantial increase in overweight/obesity in all age ranges, social strata and both sexes (AMER et al., 2001, ANJOS, 2001).

Studies conducted between 1988 and 1996 indicated an surveys in the intake of fat in the north and northeast regions (ANJOS, 2001). Among all regions, the South in the one with greatest prevalence of obesity, similar and even greater to that of developed countries (BARRA et al., 2000).

Lopes et al., aped Cuchiaro (2000) conducted a study in different age ranges demonstrating the present tendency for fat accumulation in the population, in a general way, and in quantities above the desirable in men and women beyond 50 years.

According to information from the Brazilian Institute of Geography and Statistics (IBGE), in the period from March 1996 to March 1997 the percentage of obese people as evaluated by the Body Mass Index (BMI) increased from eight to almost tenfolds among adults, indicating the appearance of 2 million new obese. Between 1974 and 1998 obesity has doubled among men (from 2.4% to 4.8%). In the female population the increase in obesity was also significant (7% to 12%) (BARRA et al., 2000).

Information from these various studies stimulated the idea to identify an indirect indicator for alteration in the body mass in adults occurred along the years through the evaluation on the variation of trousers sizes used routinely by professionals of both sexes.

METHODS

The studied group included 1360 female workers of the restaurants and hotels sector with age varying from 30 to 45 years and 982 male workers of the security, restaurant and drivers sectors with age varying from 31 to 47 years. The common characteristic of these individuals was that they commonly and routinely purchased the same model of trouser in a same factory of professional garments in Campinas, São Paulo, from 1990 to 2002.

Data were collected through software used by the mentioned factory, which allowed obtain information on selling on the studied period.

Trousers' size was considered as small (for individuals until 58Kg), medium (individuals weighting 59 to 77Kg), large (78 to 90Kg) and extra-large (above 90Kg). After data collection it was calculated the relative frequencies by sex and year along the studied period.

RESULTS

Results can be seen in TABLES 1 and 2 as well as in FIGURES 1, 2, 3 and 4.

TABLE 1 – Distribution of the evolution of the relative frequency of purchase of small, medium, large and extra-large among women from 1990 to 2002

Years	Small	Medium	Large	Extra-large
1990	37.8	35.8	24.2	2.2
1991	35.9	34.8	26.8	2.5
1992	35.3	34.9	26.4	3.4
1993	34.7	32.4	28.1	4.8
1994	33.1	32.9	28.7	5.3
1995	30.5	29.3	32.9	7.3
1996	27.4	32.5	33.3	6.8
1997	25.5	30.5	35.8	8.2
1998	25.0	30.6	34.5	9.9
1999	22.7	30.6	36.9	9.8
2000	18.2	33.2	38.1	10.5
2001	18.8	31.3	38.6	11.3
2002	16.4	31.5	40.3	11.8

TABLE 2 – Distribution of the evolution of the relative frequency of purchase of small, medium, large and extra-large trousers among men from 1990 to 2002.

Years	Small	Medium	Large	Extra-large
1990	40.3	35.4	22.1	2.2
1991	34.7	36.5	26.2	2.6
1992	36.5	36.2	24.2	3.1
1993	34.1	37.0	25.1	3.8
1994	31.3	37.9	26.2	4.6
1995	29.6	37.4	28.7	4.3
1996	27.6	36.6	30.6	5.2
1997	27.1	35.3	31.7	5.9
1998	27.2	32.8	33.6	6.4
1999	21.8	36.1	34.5	7.6
2000	22.5	31.7	37.2	8.6
2001	18.6	31.5	39.6	10.3
2002	15.9	29.8	41.5	12.8

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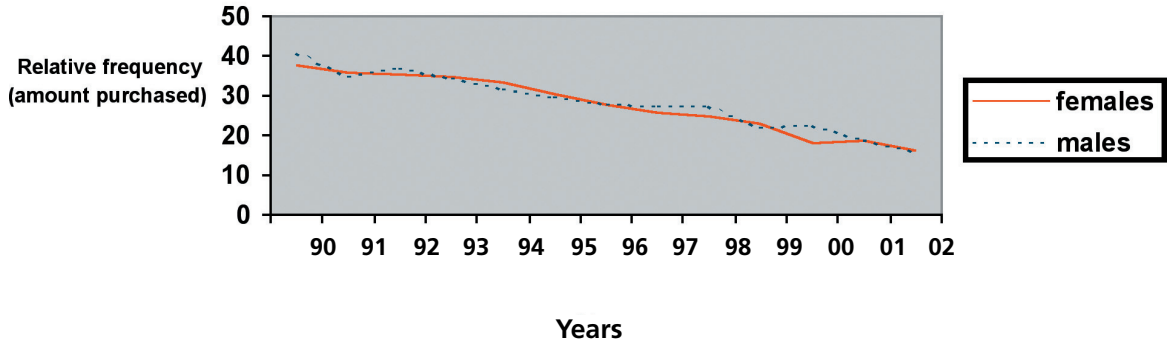

Figure 1 - Evolution of the consumption small size trousers

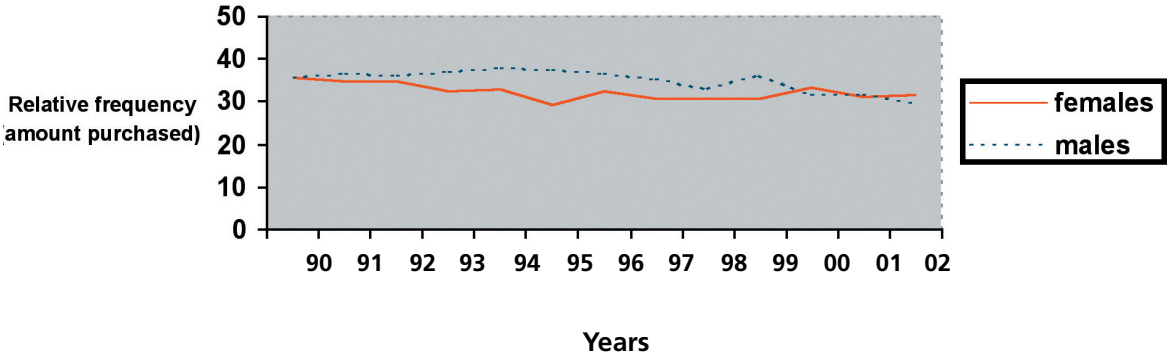

Figure 2 - Evolution in the consumption of medium size trouseres

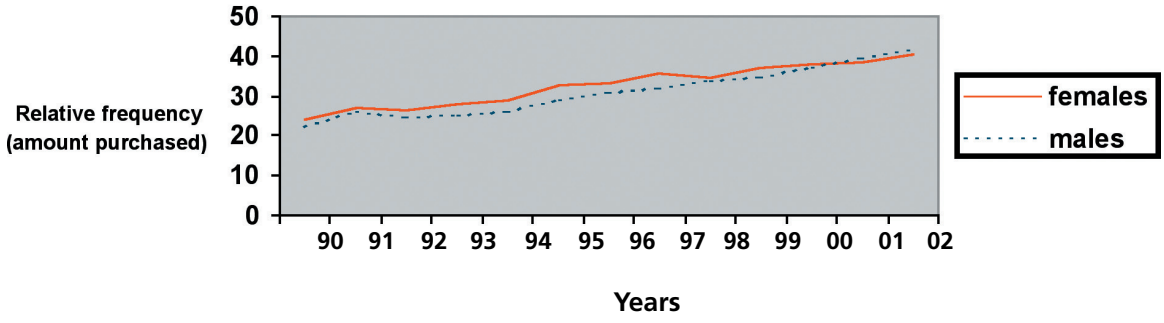

Figure 3 - Evolution in the consumption of large size trousers

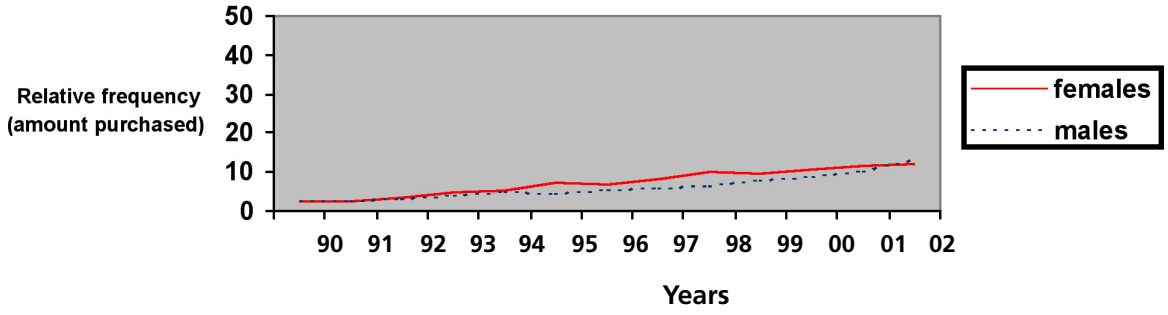

Figure 4 - Evolution in the consumption of extra-large size trousers

FIGURE 1 refers to small size trousers and it is observed a marked decrease in its use along the studied period. In FIGURE 2 it can be seen the evolution of the consumption of medium size trousers, which has been constant. Large size trousers showed an increase in consumption in both sexes (FIGURE 3). The evolution of the consumption of extra-large trousers can be seen in FIGURE 4 shows a increased use at the end of the studied period, mainly among males.

DISCUSSION

Undoubtedly, other variables are involved in the study of the evolution of the body mass among human groups but the evolution in the size of trousers routinely used by determined groups may be an auxiliary indicator to the study of this behavior in populations. Indeed, along the study it was verified a marked tendency to consumption of larger trousers. Even if one consider that the studied

group is heterogeneous, that is, there was not a prospective follow-up of the same individuals along the period, the collected data indicates a tendency for a demand of larger sizes of trousers.

CONCLUSIONS

It was observed a decrease in the consumption of small size trouser and a concomitant increase in the consumption of larger and extra-large trousers and a stable consumption of medium size trousers along the studied period.

Analyzes of the frequency of the consumption of different trousers' sizes can be an indirect indicator of increase in the body mass in some given groups.

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