Analysis of the suitability of furniture university - anthropometric characteristics of user

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Abstract. This study objective show if the furniture university are according anthropometric characteristics of user.

Keywords: School, Comfort, Security

1. Introduction

The university is responsible for furnishing physical and psychological comfort of the student, thus having great importance in the educational process because people with pain often have loss of concentration, harming both the behavior and productivity in the classroom[1, 2-3] . The purpose of this study was to assess the adequacy of ergonomic desks used by students of the university city of Bragança Paulista, Sao Paulo to their anthropometric aspects.

2. Method

Data collection was performed from March to September 2008, attended by 743 volunteers enrolled in Administration, Biology, Law, Physical Education, Nursing, Pharmacy, Physiotherapy, Environmental Management, Hotel Management, Medicine, Nutrition, Dentistry, Education, Process, Chemical Technology and Tourism, at an institution of higher education. Individuals were selected by convenience sampling, having been invited as they passed by a meeting point within the University. Anthropometric data were measured: knee height, popliteal height, buttock-popliteal distance, distance buttock-knee, thigh sitting height, hip width, elbow height, distance between the elbow, height of the posterior column, seat height scapula and olecranon distance-hand through a caliper. Measurements were collected using a bank and a second ladder steps to position the body segments. The portfolios were collections of the seat measures (length and width), back (height) and seat height. The ANOVA was used to compare means of measures between male and female groups, with a significance level of 5%.

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Table 1
Percentile 5%, 50% e 95% and mean of anthropometric measurements of men and women

Dimension	Men				Women			
	5%	50%	95%	Mean	5%	50%	95%	Mean
Stature (cm)	1.60	1.74	1.85	1.73	1.54	1.64	1.74	1.64
Weight (Kg)	58.00	74.00	95.20	75.73	45.45	56.00	73.10	58.18
CMI (Kg/m)	20.00	24.00	30.00	24.66	17.00	21.00	26.00	21.3
Popliteal height (cm)	38.00	45.00	51.00	44.66	35.00	41.00	46.00	40.66
Buttock-popliteal distance (cm)	37.00	45.00	52.20	44.73	34.00	41.00	48.00	41
Hip width (cm)	38.00	45.00	57.20	46.73	37.45	44.00	54.00	45.15
Elbow height to the seat (cm)	20.00	24.00	30.00	24.66	19.00	24.00	28.00	23.66
Distance between the elbows (cm)	38.00	47.00	59.20	40.06	35.00	42.00	52.00	43

3. Results

The study included 745 students, and of these 432 (58%) females and 313 (42%) were male, with a mean age of 23.04 ± 5.85 years. There was no significant difference between anthropometric measures of men and women (p = 0.693), the portfolios meet the anthropometric profile of only the students, so that more than 60% do not fit the furniture. The anthropometric measurements obtained from both sexes, their averages and percentiles are shown in Table 1.

4. Discussion

The continuous measurement of anthropometric measurements of a given population is important for both the design and product development, how to define the profile of the population that will benefit [4]. These measures vary in the biotype, sex and age, which are individual and the physical origin, ethnicity and age which are aspects of population

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