

Ergonomic Evaluation of Kitchen⁺ work with Reference to Space Designing

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ABSTRACT Poorly designed kitchen work surfaces and storage spaces cause permanent body damage besides increasing the work cost. This justifies that height of kitchen work surfaces and storage spaces should be given careful attention thereby minimizing stress on cardio-vascular, muscular and respiratory system. Based on the above considerations, ergonomic evaluation of kitchen work with reference to space designing was done by employing parameters viz. physiological, cardio-vascular stress, energy expenditure and perceived exertion. The study analyzed the comparison of working counter viz. counter height, width, depth and kitchen storage spaces with set standards and as to how modifications can be made to make kitchen more efficient and comfortable. Considering the importance of space designing, An experiment was set up at Residential Laboratory, Department of Family Resource Management, College of Home Science, CSKHPKV, Palampur. A sample of 30 urban homemakers was selected through multi – stage random sampling technique to determine the cost of kitchen work and convenient heights for selected kitchen activities viz. chopping, cooking, kneading dough and dishwashing. Anthropometric measurements were used as a reference data in planning and recommending suitable kitchen counter heights. The data were analyzed by applying descriptive statistics (frequencies, percentages, average and standard deviation) and relational statistics such as t- test and correlation. The analysis showed that 79 cm for kneading dough; 84 cm for chopping and 96 cm for cooking were most suitable kitchen counter heights with least ergonomic cost of work of the sampled respondents. The amount of exertion perceived by the sample during performance of selected kitchen activities showed a linear relationship with heart rate and energy expenditure. Extension workers/ home scientists and architects may utilize this information to create awareness among the homemakers regarding appropriate kitchen designs and storage to minimize ergonomic cost of kitchen work