

**Ergonomic Interventions to Promote Occupational  
Health and Safety among Workers Employed  
in Garment Industries**

**By  
D.S. Padmini**


**A Thesis Submitted to  
Avinashilingam Institute for Home Science and Higher Education for  
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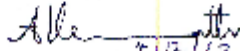
**In Partial Fulfilment of the Requirements for the Degree of  
Doctor of Philosophy in Resource Management**

**December 2013**

## CERTIFICATE

This is to certify that the dissertation entitled "**Ergonomic Interventions to Promote Occupational Health and Safety among Workers Employed in Garment Industries**" submitted to the Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, in partial fulfillment of the requirements for the award of the Degree of Doctor of Philosophy in Resource Management, is a record of original research work done by **D.S.Padmmini**, during the period of her study in the Department of Resource Management, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore under my supervision and guidance and the dissertation has not formed the basis for the award of any Degree/ Diploma/ Associateship/ Fellowship or similar title to any candidate of any other University and it represents entirely an independent work on the part of the candidate.


  
Signature of the  
Head of the Department

  
Signature of the  
Guide

  
Signature of the Dean

## DECLARATION

I hereby declare that the dissertation entitled "**Ergonomic Interventions to Promote Occupational Health and Safety among Workers Employed in Garment Industries**" submitted to the Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, in partial fulfilment of the requirements for the award of the Degree of Doctor of Philosophy in Resource Management, is a record of original research work done by me under the supervision and guidance of **Dr. A.Vonmathi, M.Sc., M.Phil., Ph.D. Professor**, Department of Resource Management, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, and that it has not formed the basis for the award of any Degree/ Diploma/Associateship /Fellowship or similar title to any candidate of any other University and it represents entirely an independent work on the part of the candidate.

  
Signature of the Candidate

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## **Abstract**

Occupational safety and health (OSH) is a cross disciplinary area concerned with protecting the safety, health and welfare of people engaged in work or employment. The present study was undertaken to study the prevailing situation in garment industries of Tirupur, South India and to educate workers on the need for occupational safety and health and fabricate, evaluate and implement ergonomically designed furniture in a selected garment industry. A baseline survey regarding workers' socio-economic characteristics, occupational history, occupational health hazards, facilities and difficulties in their workplace, awareness programme on the concepts of OSH and ergonomical principles, assessment of work environment, work postures of the workers, Spirometry test and heart rate of the workers were conducted. An ergonomic table in checking section of garment industry developed earlier was modified based on the suggestions given by the workers and evaluated on ten workers who used for a period of two months. An ergonomic chair for stitching workers was designed using the average anthropometric dimensions of 50 male and 50 female workers and evaluated. All the workers employed in one selected garment industry were promoted with Personal Protective Equipment (PPE), modified ergonomic table for checking workers and ten ergonomic chairs for stitching workers. Improvement in workstation based on ergonomic principles will improve the health of the workers which will in turn increase the productivity.

**Keywords:** Occupational safety and health Garment industry, Ergonomics, Spirometer, Heart rate, Personal Protective Equipment.