The Study of Ergonomic Standards in Budget Hotels of Nagpur City

Submitted By

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Introduction

Ergonomics is a field of study that focuses on designing work environments, tools, and tasks to fit the capabilities and limitations of people, promoting both safety and efficiency. The term comes from the Greek words *ergon* (meaning "work") and *nomoi* (meaning "natural laws"). Ergonomists analyse how individuals interact with their work conditions and aim to optimize these settings to reduce physical strain and improve productivity.

When workplaces are poorly designed—such as through improper equipment, furniture, or physical procedures—it can lead to physical discomfort, fatigue, and eventually more serious conditions known as **musculoskeletal disorders (MSDs)**. These are also referred to as **Repetitive Stress Injuries (RSIs)** and are common among individuals who repeatedly perform the same tasks or maintain certain postures for extended periods.

Two primary factors contributing to MSDs and RSIs are **static work** and **force**. According to American ergonomist **Holly A. Sweeny** (2005), static work refers to the muscular effort required to hold a position, even one that may seem comfortable. For example, sitting at a computer and keeping the head and torso upright involves varying degrees of static work, depending on the efficiency of body positioning. By applying proper ergonomic principles, workplaces can minimize the risk of repetitive strain injuries, enhance employee comfort, and promote overall well-being.

Ergonomics is a multidisciplinary field that focuses on designing and arranging workspaces, tools, and tasks to suit the physical and cognitive abilities of individuals. It is divided into three main types: **physical ergonomics**, which deals with body movements, posture, and repetitive motions to prevent musculoskeletal disorders (MSDs); **cognitive ergonomics**, which addresses mental processes like memory, perception, and decision-making to reduce mental fatigue; and **organizational ergonomics**, which focuses on optimizing work structures, schedules, and communication systems to enhance efficiency and employee satisfaction. The importance of ergonomics lies in its ability to prevent workplace injuries, boost productivity, and promote overall well-being. Proper ergonomic solutions include adjusting desk setups with comfortable chairs, keeping screens at eye level, and using
ergonomic keyboards and mouse devices. Frequent breaks and posture changes also help reduce strain. Additionally, ergonomic training educates employees on maintaining proper body mechanics and practicing stretching exercises. By incorporating ergonomic principles, workplaces can minimize the risk of injuries, improve comfort, and foster a healthier and more efficient work environment.

PURPOSE OF STUDY

PURPOSE OF STUDY

The purpose of studying ergonomics is to understand how humans interact with their environment, particularly in the workplace, to design systems and tasks that best fit human capabilities and
limitations, thereby minimizing the risk of injury, discomfort, and fatigue while optimizing

performance and overall well-being; essentially, "fitting the job to the person" by considering factors like posture, body mechanics, and repetitive motions.

AIM AND
OBJECTIVES

Aim

To study ergonomic standards in budget hotels of Nagpur

Objective

- To improve the relationship between people, equipment, workplace and the environment.
- To increase work efficiency and productivity.
- To promote safety and comfort at workstation.
- To minimize the risk of injury, illness, accidents and errors without compromising productivity.

Limitations

- Ergonomic design can be expensive, especially for short-term operations.
- Planning, recruiting, and executing ergonomic design can be time-consuming.
- Ergonomic designs may need to be frequently adjusted because they may not suit all people.
- People may have different body measurements and susceptibility to ergonomic stressors.

Reviewof Literature

(Dul, Jan;d Bernard Weerdmeester, 2001)Ergonomics developed into a recognized field during the Second World War, when for the first time, technology and the human sciences were systematically applied in a co-ordinated manner. Physiologists, psychologists, anthropologists, medical doctors, work scientists and engineers together addressed the problems arising from the operation of complex
military equipment. The results of this inter-disciplinary approach appeared so promising that the cooperation was pursued after the war, in industry. Interest in the approach grew rapidly, especially in Europe and the United States, leading to the foundation in England of the first ever national ergonomics society in 1949, which is when the term 'ergonomics' was adopted. This was followed in 1961 by the creation of the International Ergonomics Association (IEA), which at present represents ergonomics societies which are active in 40 countries or regions, with a total membership of some 15 000 people.

Ergonomics (or human factors) is the scientific discipline concerned with understanding of the interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design, in order to optimize human well-being and overall system performance. In the design of work and everyday-life situations,

the focus of ergonomics is man.
Unsafe, unhealthy, uncomfortable or inefficient situations at work or in everyday life are avoided by taking account of the physical and psychological capabilities and limitations of humans. A large number of factors play a role in ergonomics; these include body posture and movement (sitting, standing, lifting, pulling and pushing), environmental factors (noise, vibration, illumination, climate,
chemical substances), information and operation (information gained visually or through other senses, controls, relation between displays and control), as well as work organization (appropriate tasks, interesting jobs). These factors determine to a large extent safety, health, comfort and efficient
performance at work and in everyday life. Ergonomics draws its knowledge from various fields in the human sciences and technology, including anthropometrics, biomechanics, physiology, psychology, toxicology, mechanical engineering, industrial design, information technology and industrial
management. It has gathered selected and integrated relevant knowledge from these fields. In applying this knowledge, specific methods and techniques are used. Ergonomics differs from other fields by its interdisciplinary approach and applied nature. The interdisciplinary character of the ergonomic approach means that it relates to many different human facets. As a consequence of its applied nature, the ergonomic approach results in the adaptation of the workplace or environment to fit people, rather than the other way round.

(RAGHUBALAN & RAGHUBALAN, 2015)Everyone does some of the work that housekeepers in hotels do. Thus, it is usual to assume that the work of a hotel housekeeper is no more risky than
performing these tasks at home. However, contrary to popular perception, housekeeping is a physically demanding and a very tiring job. According to time and motion studies, a guest room attendant (GRA) changes his/her body position every three seconds while cleaning a guestroom. Assuming that the average cleaning time for each room is 25 minutes, it may be estimated that a GRA assumes 8000 different body postures in every eight hour shift Apart from the routine guestroom cleaning, which involves making beds, lifting heavy mattresses, changing bed and bathroom linen, cleaning bathrooms, replacing toiletries, etc., GRAs also load cleaning supplies, fresh linen, amenities, etc. on to heavy carts and push them across thickly carpeted floors of hotel corridors. This work profile makes
housekeeping an extremely demanding job physically, leading not only to fatigue but high incidence of musculo - skeletal disorders (MSDs) and musculo-skeletal injuries (MSI) among hotel housekeepers. In fact, a study in USA covering about 87 hotels found the average rate of injury among housekeepers nearly double than that of non-housekeepers. Several more studies have found a vast majority of housekeepers suffering from work related physical pain, as a result of the strenuous work that they are subjected to. This is a cause of growing concern among the employers, as well as employees, who find it hard to cope with the pressures of their job.

What is heartening, however, is that most of these disorders and injuries arising out of strenuous, mechanical, and energy sapping work can be mitigated or reduced to a great extent by applying the principles of ergonomics. Ergonomics prevents these types of injuries by fitting the job to the person using proper equipment and work practices. This results in the safest way to work and prevents workplace injuries. Today, more and more hotel organizations are adopting the principles of
ergonomics in order to improve working conditions for employees and are finding that it makes good economic sense too. Take care of the employees and they will take care of our guests, J.W. Marriott, the founder of Marriott International hotel chain is reported to have said. Ergonomics also plays a significant role in achieving the goals of lean thinking in a hotel property by reducing costs and
improving productivity through eliminating waste (eg, unnecessary motions) and reducing mistakes
(improving quality). In this chapter we will learn what ergonomics is, and how the application of its principles can make the task of a hotel housekeeper a lot easier and simpler one at that.

Principles of Ergonomics

Over the years, ergonomists have defined postures which minimize unnecessary static work and reduce the forces acting on the body by applying the following ergonomic principles (Sweeny 2005):

- All work activities should permit the worker to adopt several different, but equally healthy and safe

postures.

- Where muscular force has to be exerted, it should be done by the largest appropriate muscle groups available. Work activities should be performed with the joints at about mid-point of their range of movement. This applies particularly to the head, trunk, and upper limbs.

These can be achieved by adopting the following practices. Avoiding prolonged static postures

- Promoting use of neutral joint postures
- Locating work, parts, tools, and controls at optimal anthropometric locations
- Providing adjustable work surfaces and tool sizes
- Providing comfortable seating, arm rest, back rest, and foot rest
- Utilizing feet and legs, in addition to hands and arms
- Using gravity
- Conserving momentum in body motions
- Providing strategic location (power zone) for lifting, lowering, and releasing loads

The power zone is the lifting region that is considered optimal by ergonomists. This area extends from approximately standing elbow height to standing knuckle height and as close to the body as possible. The power zone optimizes worker strength and durability with the most comfort, by providing the arms and back with maximum leverage. Very often, housekeeping activities such as lifting or lowering occur in locations that are out of the power zone.

Apart from safety and efficiency, the use of ergonomic principles leads to work simplification. Work simplification is defined as the use of equipment, ergonomics, functional planning, and behaviour modification to reduce the physical and psychological stresses caused by activities at home or work. Reducing the physical demands on the body during regularly performed tasks acts to preserve the joints, eliminate fatigue. And reduce the risk of injury or re-injury. Within the workplace simple guidelines call be used regarding task set-up, equipment design, equipment storage, work techniques and routines that can assist in reducing the physical strain in the body. The main aim of work simplification at workplace is to 'work smarter, not harder'.

ERGONOMICS IN HOTEL HOUSEKEEPING

The very nature of their duties puts hotel housekeepers in high risk category of MSDs and RSIs.

Hence, the e principles of ergonomics can be applied to mitigate the physical

stress level among the housekeeping employees. We shall study the role of ergonomics under the following heads:

- Significance and need of ergonomics in housekeeping.
- Analysis of risk factors in housekeeping: ergonomical perspective Mitigation of risks in housekeeping by applying ergonomic principles.
- Mitigation of risks in housekeeping by applying ergonomic principles.

(Montross, Chris, 2013) Focused on the musculoskeletal injuries of the housekeeping employees in Unites States. It mentions that recent trend of hospitality to remodel rooms for luxurious accommodations, leads hotels to use heavier, more cumbersome mattresses. It suggests the use of ergonomic systems that promote the use of safer body mechanics.

Work productivity in the hospitality industry

(Mbuvi Joseph Musyoki, 2024)Productivity is the measure of an employee's effectiveness in performing essential duties, such as offering satisfactory services to customers, handling guest complaints and attending to guest requests among others. It refers to the attribute or state of providing huge results or abundantly, which is frequently assessed by the ratio of output to input. Determining the productivity of workers is intrinsically difficult because their activities vary greatly, involving both creative and repetitive duties depending on the demands of the job. Assessment of work output and assessments of cognitive function may be necessary to perform tasks connected to the workplace as a measure of worker productivity. By reducing unfavourable of human resources including absenteeism, turnover, tardiness, withdrawal behaviour, and reluctance to change; and by leveraging incentives to foster employee commitment, worker productivity rises .In the opinion of 5, enhancing job satisfaction, employee welfare, and employee engagement through incentives results in increased employee commitment which results to increased employee productivity. Hospitality organizations need to consider new approaches to working, which means stepping outside of their comfort zones and conventional responsibilities. It is their responsibility to design work settings where employees may realize their full potential, feel purposeful in what they do, and love what they do. Workplace
productivity rises when people are in good physical and mental health because they are more motivated to work. When they help workers see their worth within the company, supervisors can lift their moods. In order to increase employee productivity, supervisory support evaluates which areas of their staff members need improvement and then assists them in putting the newly acquired abilities to use when finishing their work.

Psychological comfort domain

Feelings of control over one's workspace, ownership, and belonging are characteristics of

psychological comfort. In the environmental comfort paradigm of workstation quality, psychological comfort is the highest level of comfort. Users who have an ergonomic workstation can feel more at ease psychologically and have a clear sense of their own area .Both employees and the customers as well as other stakeholders who may visit a premises for a variety of reasons may experience these aspects of psychological comfort in the hospitality facility. By increasing environmental
empowerment, users might feel more a part of the workplace and more like owners if they are encouraged to participate in the design process.

Areas of application of ergonomics in hotel operations

The understanding of human traits and capacities, along with the impact of product/system attributes and environmental factors on individuals, forms the essential scientific foundation that functions as a benchmark for the creation and evaluation of design and/or intervention options for working surfaces and areas in the hospitality structures. Similar

to this, the first step in every review and/or planning process is to comprehend and evaluate the needs, attitudes, and expectations of individuals working in the various departments of the premises. This requires a shift in perspective from two different angles: The
evaluation and design of systems, environments, and products, as well as the evaluation and design of the interactions between people and those environments, products, or systems; the assessment of the objective reality that people interact with, the projection of the future and the likelihood that these interactions will occur, and the design of the best possible solutions to address the needs and desires of the hotel employees. Fundamental standards for evaluating the ergonomic system should be:
Productivity, or the quantity of work completed in a given length of time; reliability, which is defined as the likelihood of faultless operation and the timely and error-free performance of tasks; economy: Ascertains monetary expenses (costs per unit of production, rate of return, etc.); the degree of physical strain on the system's ability to perform; we gauge this by measuring the amount of energy used per working cycle or per minute; the degree of mental strain caused by the system's operation - we assess the mental burden that a particular system places on an individual; the system's hazard, or the risk of harm to one's health; occupational safety and health, which reduces the risk of getting sick; system flexibility- the ability to make changes to the system in a flexible manner; ecosystem aesthetics- sensitivity to the beauty of individual components of the system; and stability, the propensity to maintain variable values within predetermined bounds. A shift in the employment structure may result from raising the standard of labour through bettering the

surroundings and working conditions. A first step in raising the calibre of work is identifying the reasons for and effects of unfavourable working environments and circumstances to illustrate, the layout and working plan of the kitchen should be
practical, cosy, and efficient. In addition to raising labour costs, poorly designed kitchen work surfaces, storage areas, and inefficient work plans have a negative impact on the worker's physical well-being. A seamless energy flow between the workplace, the worker, and the task is facilitated by kitchen ergonomics. To lessen the homemaker's physical, psychological, and temporal expenses, the kitchen should be thoughtfully planned and arranged. In addition to physical and physiological considerations, a well-designed kitchen should primarily take into account the layout, positioning of furniture,
cooking tools, and human movement. A worker may easily make the kitchen a comfortable and exciting place to work by using some inexpensive preparation and a little creativity. This will also make cooking tasks simpler and more enjoyable. Inadequately planned kitchen worktops and storage
areas lead to physical harm, escalate labour expenses, and breed monotony in the routine kitchen tasks.

This explains why it's important to pay close attention to the height of kitchen work surfaces and storage areas in order to reduce the strain on the respiratory, muscular, and cardiovascular systems.

Observes that the hotel workplace layouts, including the areas used for work and leisure should be

designed with ergonomics in mind. It comprises the general arrangement of the workspace, the design of the workstations, the seats, the conveyor, the storage, the breakout area, the canteen, the restroom, the gym, and other amenities like the windows, lighting, ventilation, and sound absorption systems.
Furthermore, ergonomics should be

incorporated into the design of the workplace's exit, entrance, emergency facilities, and any adjacent regions. For example, when utilizing a computer in an office setting, an
individual's posture and body language are mostly determined by the nature of the activity at hand, the furniture that meets their needs, the workplace environment, and themselves. Adjustable chairs,
desks, computer mice, and adjustable height monitors are just a few examples of the various furniture and equipment solutions that might be
recommended. However, a user's working posture can only be supported if the chosen furniture and equipment are suitable for the required task and user group. Both the task and the furniture parameters affect the furniture's appropriateness and comfort. Before the products are bought, an ergonomist should be consulted in order to choose the right office supplies, computer peripherals, and furniture.
When changing outdated materials or buying new furniture or equipment for the office, the entire workstation arrangement should be taken into account.

Accommodation areas

In the accommodation sector, there is usually a lot of haste to accomplish room preparation tasks within the allocated time. The quality of housekeeping influences a customer's decision to make a
subsequent purchase or to recommend a specific location; hence housekeepers play a crucial role in the hotel and lodging industries. Cleaning experts known as housekeepers are in charge of doing laundry, cleaning, stocking supplies, and serving patrons. The most common places to work are inns, guest homes, hotels, motels, spas, and the sleeping coaches of passenger trains. Housekeepers frequently find their jobs to be stressful. While speed is necessary for the job, hurrying also increases the danger
of workplace accidents. In the event that housekeeping is understaffed, functional disorders and occupational hazards exacerbate the rush. Avoiding excessive rushing that leads to job overload will also help to prevent workplace accidents and needless sick days. Ergonomics describes the process of adapting methods and procedures to suit human needs at their place of occupation. In housekeeping, this could involve making a vacuum cleaner or cleaning cart easier for staff to use so that their
tasks are completed more quickly. Because users of vacuum cleaners come in a range of heights and need to be able to reach a number of locations with it, this implies that the

suction wand needs to be adjustable. Applying ergonomic principles enhances human health, safety, and well-being in addition to enabling uninterrupted, efficient system
functioning. For the vacuum cleaner, for instance, safety could imply that the vacuum cord is sufficiently long to avoid becoming taut and obstructive, or that it coils up inside the appliance to prevent people from tripping over the excess cord.

Food and beverage areas

Human factors engineering and workplace ergonomics need to receive more consideration from facilities designers and equipment makers in light of the evolving foodservice environment. Work schedules and workstations that are well-designed in restaurants can reduce risks and increase productivity. aspects of ergonomics including the need for a certain skill, level of physical activity, handling manual materials, workplace layout, posture during work, surroundings, work hours, and equipment. In a demanding sector of the economy such as food and beverage, it is imperative that
individuals have a substantial degree of knowledge and authority to plan and control a large portion of their job in order to accomplish desired results. Using ergonomics techniques can assist in changing an organization's culture to one that emphasizes harmony and teamwork at work. Workplaces in the food production industry are often stationary. Therefore, workers in this kind of environment should be able to stand up straight, keep their arms close to their bodies, and place their hands just below their elbows, rotate duties, especially those that call for the same motion, work with their shoulders relaxed, and push carts as much as they can rather than drag them. A higher load level would be advantageous, and anti-fatigue mats are a need in the workplace to reduce strain on the back, legs, and feet.
Additionally, arrange the workspace so that frequently used materials are easy to reach, unpleasant postures for the back, shoulders, and rest are avoided, the walking distance between fryers and sinks is minimized, and the pick-up area in the central kitchen is located to the minimum.

(Rachel Mammen, 2017)The physical hazards faced by hotel housekeepers are caused due to repetitive housekeeping functions. The daily task of housekeepers are making beds (repeated forward trunk
flexion and rotation), moving cleaning carts (pushing and pulling), lifting and lowering loads (repeated trunk flexion/extension and rotation with poor body mechanics), cleaning bathroom, i.e. tubs, floor and toilet (repeated forward trunk flexion and rotation, poor body mechanics, lifting), vacuuming, dusting and cleaning (poor body mechanics, lifting, forward trunk flexion and rotation), trash removal and
lifting/ repositioning furniture (repeated lifting with trunk flexion/extension and rotation). Table 1 shows the list of daily tasks and body movements. Exposure to chemicals used for cleaning toilets and, sinks can irritate the skin and cause other respiratory diseases. Other possible risks of volatile organic compounds include respiratory problems and cancer and exposure to solvent based products can be
damaging to kidneys and reproductive organs. Biological hazards such as exposure to broken glassware and medical waste left by guests create risks for infectious diseases such as hepatitis

Table: Job tasks that can lead to injuries

Job tasks that can lead to injuries	**Movement of the body**
Making Beds	Pushing and Pulling
Moving Cleaning Carts	Repeated trunk flexion/extension and rotation with poor body mechanics.

Lifting and Lowering Loads	Repeated trunk flexion/extension and rotation, poor body mechanics, lifting.
Cleaning Bathrooms (i.e. tubs, floor and toilet)	Repeated forward trunk flexion/extension and rotation, poor body mechanics, lifting.
Vacuuming, Dusting and Cleaning	Poor body mechanics, lifting, forward trunk flexion and rotation.
Trash Removal and Lifting/ Repositioning Furniture	Repeated lifting with trunk flexion/ extension and rotation

(Occupational Safety and Health Administration)

Prevention of Musculoskeletal Disorders in the Workplace

According to OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)

Musculoskeletal disorders (MSDs) affect the muscles, nerves, blood vessels, ligaments and tendons. Workers in many different industries and occupations can be exposed to risk factors at work, such as lifting heavy items, bending, reaching overhead, pushing and pulling heavy loads, working in awkward body postures and performing the same or similar tasks repetitively. Exposure to these known risk factors for MSDs increases a worker's risk of injury.

Work-related MSDs can be prevented. Ergonomics --- fitting a job to a person --- helps lessen muscle fatigue, increases productivity and reduces the number and severity of work-related MSDs.

Impact of MSDs in the Workplace

Work-related MSDs are among the most frequently reported causes of lost or restricted work time.

A Process for Protecting Workers

Employers are responsible for providing a safe and healthful workplace for their workers. In the workplace, the number and severity of MSDs resulting from physical overexertion, and their associated costs, can be substantially reduced by applying ergonomic principles.

Implementing an ergonomic process is effective in reducing the risk of developing MSDs in high-risk industries as diverse as construction, food processing, fire fighting, office jobs, healthcare, transportation and warehousing. The following are important elements of an ergonomic process:

- **Provide Management Support** - A strong commitment by management is critical to the overall success of an ergonomic process. Management should define clear goals and objectives for the ergonomic process, discuss them with their workers, assign responsibilities to designated staff members, and communicate clearly with the workforce.
- **Involve Workers** - A participatory ergonomic approach, where workers are directly involved in worksite assessments, solution development and implementation is the essence of a successful ergonomic process. Workers can:
  - Identify and provide important information about hazards in their workplaces.
  - Assist in the ergonomic process by voicing their concerns and suggestions for reducing exposure to risk factors and by evaluating the changes made as a result of an ergonomic assessment.
- **Provide Training** - Training is an important element in the ergonomic process. It ensures that workers are aware of ergonomics and its benefits, become informed about ergonomics related concerns in the workplace, and understand the importance of reporting early symptoms of MSDs.
- **Identify Problems** - An important step in the ergonomic process is to identify and assess ergonomic problems in the workplace before they result in MSDs.
- **Encourage Early Reporting of MSD Symptoms** - Early reporting can accelerate the job assessment and improvement process, helping to prevent or reduce the progression of symptoms, the development of serious injuries, and subsequent lost-time claims.
- **Implement Solutions to Control Hazards** - There are many possible solutions that can be implemented to reduce, control or eliminate workplace MSDs.
- **Evaluate Progress** - Established evaluation and corrective action procedures are required to periodically assess the effectiveness of the ergonomic process and to ensure its continuous

improvement and long-term success. As an ergonomic process is first developing, assessments should include determining whether goals set for the ergonomic process have been met and determining the success of the implemented ergonomic solutions.

(Juliet, Amaechi Chijioke;Elsie Alozie Nkemdilim, February, 2019)In reviewing published research on occupational injuries and illness, it was evident that

very little scholarly work has been published in the domains of hotel housekeeper's health and safety to date. Through a review of the literature in specific to hotel housekeepers work conditions, three areas of research come to fore, namely physical workload, ergonomic problems and prevalence of pain among hotel room cleaners. Consistent with academic research in the hospitality field are the findings from a recent study by the National Institute for Occupational Safety and Health (NIOSH) in the U.S. which states that housekeepers with musculoskeletal injuries are under researched with limited

knowledge and research also evident among dishwashers, cooks and other service sector workers The new research agenda for the National Institute for

Occupational Safety and Health (NIOSH) for the next ten years (2016-2026), is thus set to focus on protection from work-related safety and health hazards with the promotion of injury and illness prevention in purpose of supporting employee well-being .

Tools Used in Housekeeping Department

"Using hand and power tools" to perform physical work activities does not in itself mean that employees are exposed to ergonomic risk factors that put them at risk of injury. Rather, it is a shorthand way of alerting employers that there are aspects of tool design and use that need to be checked out to see whether ergonomic risk factors may be present. These include:

i. Weight and size of tool

ii. Tool handles and/or grips

Fig: (Brooms and Wet/Damp mop with container)

Work Activities and their Ergonomics Risk Factors

1. Awkward postures, static postures, contact stress, vibration

The presence of any or all of these risk factors in a job, particularly jobs involving repetitive motion or forceful exertion, increases the force already required to perform job tasks and,
therefore, increases the amount of time muscles need to recover from the exertions the task requires. If the recovery time is not adequate, the presence of these risk factors hastens the
onset of fatigue and the effects associated with overuse of muscles, joints and tendons especially attaching doors on the bathroom vanity assembly line, mobbing and scrubbing the floor.

2. Lifting and lowering

In lifting and lowering, awkward posture is the risk factor that most often needs to be addressed. The awkward posture makes the muscles less efficient and results in higher forces. The higher forces lead to fatigue and inflammation.

a. Kneeling and squatting to dress the guest room.

b. Lifting bags of laundry from a wet floor

3. Pushing and Pulling

Pushing or pulling on an uneven, slippery, or sloped surface can result in a sudden increase in the force needed to move or stop an object. The increase in force alone can tear muscles or strain tendons enough to cause an injury. When the increase in force occurs when the body is in an awkward posture due to the surface, then a muscle or tendon strain is more
likely, due to the inefficient position of the muscles.

a. Pushing a laundry hamper across a wet floor

b. Pushing a trolley tiled staircase

c. Pushing a wheelchair through gravel

d. Pushing a cart on a cracked concrete floor

4. Carrying

Carrying an object combines the static loading of the muscles with the loading caused by the awkward vertical position of the load. The combination of static and awkward postures greatly increases the fatigue on the muscles. Maintaining a

stopped posture to carry a load places strain on the muscles of the back and shoulder as well as the spinal discs. Not only is the back supporting the weight of the object, but also the weight of the upper body.

Carrying loads above shoulder height cannot be maintained for prolonged periods of time because the shoulder muscles will fatigue. The exception is when the weight of the load is rested on the skeletal system and the arms merely balance the weight (carrying objects on the head, carrying trays of food on the shoulder). There are times when housekeepers carry an object that cannot be rested against the body, so the arms are in a position that is similar to that of a long reach. This also happens when carrying a large box or phishing trolley on a staircase. When this happens the force risk factor is probably the most important, followed by the awkward and static posture risk factors.

a. Carrying large, bulky boxes of machine parts where the worker is unable to carry the box with a horizontal hold.

b. carrying a large piece of furniture down steps.

WHAT IS THE BEST ERGONOMIC POSITION?

(Sleptsov) (Creating a Culture of Safety: The Role of Ergonomics in Managing Hazardous Manual Handling Tasks)

Fig: (Correct ergonomic postures)

(Creating a Culture of Safety: The Role of Ergonomics in Managing Hazardous Manual Handling Tasks)

Understanding the impact of hazardous manual handling tasks

Hazardous manual handling tasks involve activities that require employees to exert force, lift heavy objects, or adopt awkward postures. These tasks can significantly impact the health and safety of workers if not managed properly. Improper lifting techniques, repetitive motions, and prolonged static postures can lead to musculoskeletal disorders, chronic pain, and long-term disabilities.

The consequences of hazardous manual handling tasks are not limited to physical injuries alone. Employees who regularly engage in such activities may experience increased levels of stress, reduced job satisfaction, and decreased productivity. It is essential for organizations to recognize and address the impact of these tasks to ensure the well-being of their workforce.

The benefits of implementing ergonomic practices in the workplace

Implementing ergonomic practices in the workplace brings about numerous benefits for both the employees and the organization as a whole. By creating an environment that supports the physical and mental well-being of the workforce, organizations can significantly reduce the risk of workplace injuries and associated costs.

One of the key benefits of ergonomic practices is the prevention of musculoskeletal disorders (MSDs). By optimizing the design of workstations, tools, and equipment, employees are less likely to experience strains, sprains, and other MSDs. This leads to reduced absenteeism, lower healthcare costs, and increased productivity.

Furthermore, implementing ergonomic practices also enhances employee engagement and job satisfaction. When employees feel that their well-being is valued by the organization, they are more likely to be motivated and committed to their work. This, in turn, improves overall productivity and reduces turnover rates.

Compliance with WHS laws and regulations

Compliance with Work Health and Safety (WHS) laws and regulations is a legal and ethical responsibility for every organization. Ergonomics plays a crucial role in meeting these obligations by ensuring that the workplace is free from hazards and risks that could cause harm to employees.

WHS laws require employers to provide a safe and healthy work environment for their employees. This includes identifying and assessing ergonomic risks, implementing control measures to minimize those risks, and providing training and supervision to employees. Failure to comply with these laws not only exposes the organization to legal penalties but also puts employees at risk of injury or illness.

By integrating ergonomic practices into their operations, organizations demonstrate their commitment to WHS compliance and the well-being of their employees. This proactive approach not only protects the workforce but also fosters a positive safety culture within the organization.

(Chaitanya Deshpande, 2024)**Sit Up Straight, Live longer: Doc on Posture Ergonomics**

Nagpur: Learning good posture ergonomics from a young age can significantly increase the life of your joints, asserted orthopaedic surgeon Dr Akash Saoji during an awareness programme held recently in the city.

In a wake-up call for the increasing sedentary population in the city, Dr Saoji painted a stark picture of the changing demographics of joint pain.

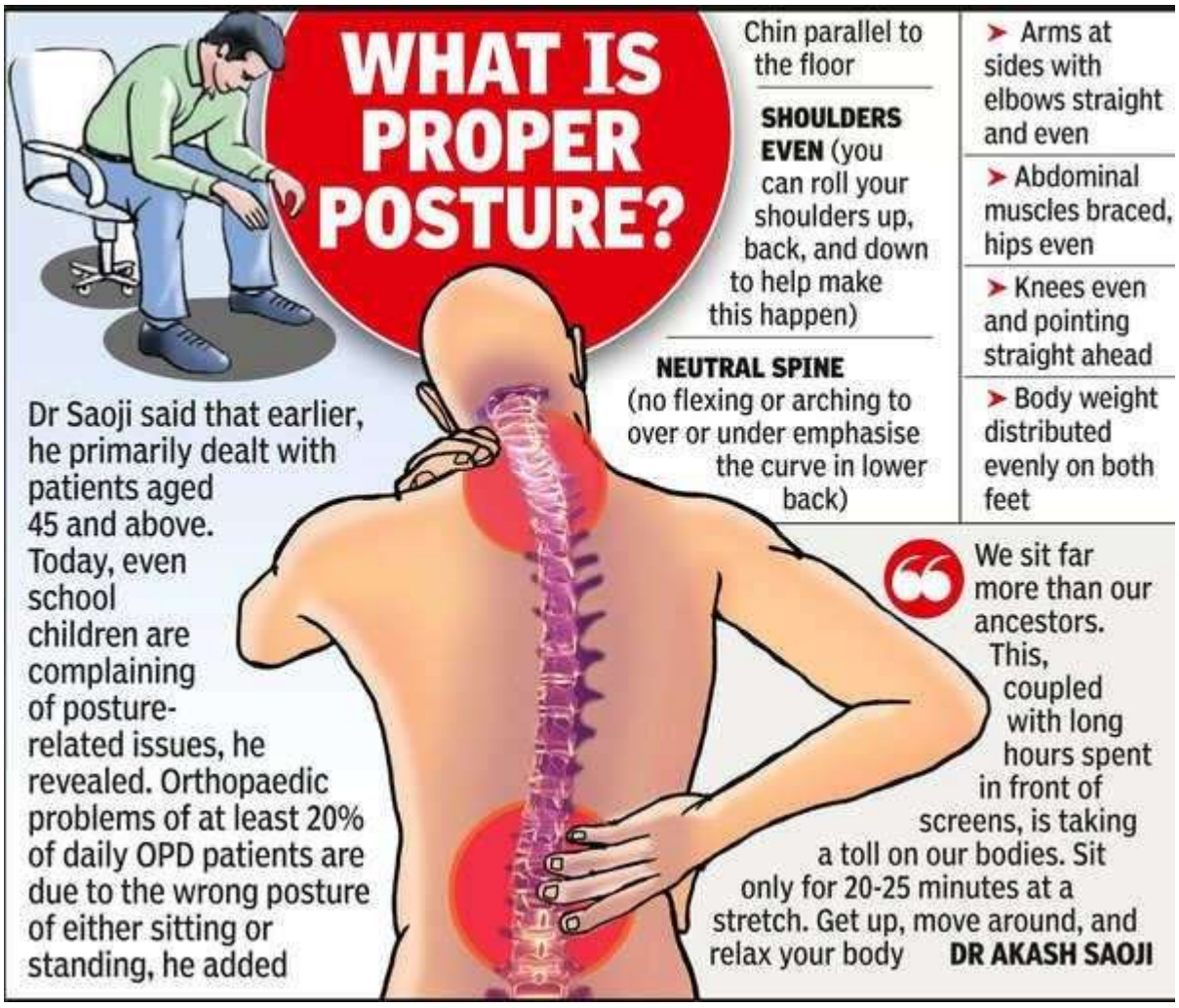


Fig: (what is proper posture)

"Earlier, we primarily dealt with patients aged 45 and above. Today, even school children are complaining of posture-related issue Orthopaedic problems of at least 20% of our daily OPD patients are due to the wrong posture of either sitting or standing," he said.Dr Saoji attributed this alarming trend to the sedentary lifestyle, underscoring the preventive aspect of adopting correct posture. “We sit far more than our ancestors. This, coupled with long hours spent in front of screens, is taking a toll on our bodies," he said.Dr Saoji stressed the need for regular breaks, suggesting, "Sit for 20-25 minutes at a stretch. Get up, move around, and relax your body."

The doctor offered practical tips for maintaining good posture. "Always sit at a 90-degree angle and use footrests to ensure your knees are higher than your hips. By understanding basic posture ergonomics, we can significantly delay or even avoid joint replacements."

Dr Saoji elaborated on the broader implications of poor posture, linking it to issues like poor circulation, digestive problems, headaches, and even reduced lung function. While acknowledging the role of factors like junk food and food adulteration in overall health, he reiterated that correct posture forms a crucial cornerstone of a healthy lifestyle.

The event was attended by many from professions requiring prolonged sitting, such as IT professionals, teachers, and bankers. As Dr Saoji concluded, the message was clear: Adopting good posture is not just about avoiding pain but about enhancing overall quality of life.

(Garosi, Sheikh, & Goodarzi, february 2025)

Modern ergonomics: Today, ergonomics is widely recognized as an essential aspect Of occupational health and safety.

The field has expanded to include various sub- Disciplines, such as cognitive ergonomics, organizational ergonomics, and physical Ergonomics, each focusing on different aspects of human-system interaction. The emphasis on risk reduction in modern ergonomics is evident in the widespread
adoption of ergonomic interventions in the workplace. These interventions may include

the redesign of workstations to promote neutral postures, the introduction of adjustable furniture and equipment, the implementation of job rotation and micro-breaks
to reduce repetitive strain, and the development of training programs to educate workers on safe work practices.

(Sarwari, Sara; Minar, Tanvir Ahmed;, january 2021)The budget hotel is a contemporary idea that changes the demand in the tourism industry. As the typical full service hotels have so many facilities, budget hotels always provide basic services for the visitors with no extra facilities.. The idea of budget hotel was found in 1920s in US. Though the budget hotel has been established globally and the terms “budget”, “limited service” and “economy” are frequently used all over the hospitality industry, there is no uniform, broadly known characterization of this sector. Fiorentino defined it as a small hotel that is funded by one person or a small group, and its managers are most of the time its titleholders. In the UK, the budget hotel has some basic operational characteristics: extensive geographic coverage of the hotel network, ease of access, a central reservation system, uniform guest room facilities, fixed or promotional adjustable room rates, limited service, and extremely price-based (It is an alternate for the customers, those need a modest room with a bed and shower). The facilities offered by a budget hotel in Malaysia may be superior than a one-star hotel. The characteristics of a budget hotel are the low price, the small number of staff because of the smaller capacity, and near location to a city so that it is easy to find all types of transportation connections. It is a new type of hotel that establishes a new idea in the tourism market; it is unlike the traditional full-service hotel .specified that a budget hotel is a hotel that targets customers such as middle-sized, small enterprise businesspeople and leisure and self- help tourists. Though the word “budget” means “cost” but it does not make any sense of “cheap”.
However, there are some common features that differentiate budget hotels from other hotels. These features are as follows: 1-lower operating expenses, 2- simple design, 3-either situated in highway in centre of the town or airports, 4-24 hours’ services provided by managers and desk clerks, 5- small rooms, 6-standarized size and design of the hotel rooms, 7- fixed room rates with some seasonal discounts, 8-limited service, 9-high value for money, and 10-easily found and within accessible locations.

(Nairobi, september 2023)

Why do people choose budget hotels?

Why do people choose budget hotels? If you’re among the many travellers asking the same question, you’re at the right place.

Budget hotels, also known as economy or cheap hotels, are popular among travellers looking to save on accommodation expenses. And if you're reading this article, it's automatic that you're looking
forward to either finding the best budget hotel or finding answers to why people choose a budget hotel. Therefore, these hotels provide affordable lodging options, cheap or pocket-friendly accommodations, and a peaceful ambiance for those willing to compromise on amenities and luxury.

Similarly, the reasons why people choose budget hotels vary from person to person. However, whether you’re looking for the best hotels with free Wi-Fi or cheap hotels with stunning swimming pools,
Nairobi, Kenya, has got you covered.
In this post, we've done our research to help people understand the need to choose a budget hotel. Are you ready to explore why you should choose a budget-friendly hotel?

Let’s dive in;
Why Should You Choose a Budget-Friendly Hotel?

Cost-effectiveness

One of the main reasons people go for budget hotels is cost-effectiveness. For many travellers, especially those on a tight budget, saving money on lodging is a top priority. These types of hotels usually offer basic amenities and services at a lower price compared to luxury hotels.

By staying at a budget hotel, they can significantly lower their expenses and have more money to spend on other

activities such as;

Sightseeing Shopping Dining out Moreover, budget hotels are also suitable for travellers who need to stay in a particular location for an extended period, such as students or businesses.

Strategic Locations

Strategic location is another prime reason why people opt for a budget hotel. These hotels are often located in convenient locations such as city centres, tourist areas, or near public transportation.

This makes it easier for travellers to explore the local area and reach popular tourist destinations without spending much on transportation costs.

The simplicity and convenience they offer ,unlike luxury hotels, which may offer an overwhelming range of amenities and services, budget hotels provide a more direct and practical experience.

These hotels offer the essential services and amenities that most travellers need, such as:

- Clean and comfortable rooms
- Free Wi-Fi
- Basic toiletries
- A relaxed and informal atmosphere

Moreover, budget hotels often have a more relaxed and informal atmosphere, which can appeal to travellers who want a more laid-back experience. If having a calm and relaxed atmosphere is your thing, these hotels cover you.

Similarly, they may offer communal areas where guests can socialize, such as shared kitchens or lounges, creating a sense of community among guests.

It is just a place to sleep!

Finally, some travellers choose budget hotels because they prefer to spend their money on experiences rather than accommodations.

For these travellers, a hotel is simply a place to sleep and store their belongings while they explore the local area. If the hotel provides a clean and comfortable room, they are happy to forgo luxury
amenities in exchange for lower prices.

What are the characteristics of budget hotels?

Budget hotels are accommodations that typically provide basic amenities and services at a lower price point than luxury hotels.

While the specific characteristics of these hotels may vary depending on the location and brand, several standard features are often associated with this type of lodging.

Some of the critical characteristics of budget hotels include the following: Basic amenities
Budget hotels usually provide a range of essential amenities, such as:

- Comfortable beds
- Clean linens
- Air conditioning and basic toiletries
- Free Wi-Fi

- Free parking and breakfast
- Simplified services

Unlike luxury hotels, which offer extensive services and amenities, budget hotels provide a more simplified experience.

They may not have on-site restaurants, spas, or fitness centers but may offer practical amenities such as self-service laundry facilities or vending machines.

Budget hotels typically have a no-frills approach, providing practical and functional amenities rather than luxury services.

This approach helps keep costs low and allows travellers to enjoy affordable accommodations without sacrificing comfort or convenience.

What is the difference between budget and luxury hotels?

Budget hotels are cheaper and offer basic amenities and services, while luxury hotels are expensive and provide high-end amenities and services such as gourmet dining, spas, and concierge services.

Luxury hotels often have more prominent, high-quality rooms in prime locations, while budget hotels may have smaller, more Spartan rooms in more affordable areas. The atmosphere in luxury hotels is
generally more refined and upscale, while budget hotels tend to have a more relaxed and informal vibe.

People choose budget hotels for affordability, convenience, and practicality. While budget hotels may not offer the same level of luxury as high-end hotels, they provide basic amenities and services at a lower price point, making them accessible to travellers on a tight budget.

Budget hotels' simplified services, convenient locations, and informal atmosphere can also appeal to travellers who prefer a more relaxed and practical experience.

Budget hotels provide a practical, cost-effective solution for travellers prioritizing affordability and convenience over luxury and extravagance

Research Methodology

Research methodology is the systematic, theoretical analysis of the methods applied to a field of study or research work. It acts as the nerve centre because the entire research work is bounded by it.

In other word it is the way of searching or solving the research problem. The section represents an overview of the methods used in study. Areas covered here include Research Design, Sample & Sampling Techniques, Population, and Data Collection & Analysis.

Research Design

The study was “A study of ergonomics standards in budget hotels of Nagpur”. Consequently; the research was designed to achieve the objectives set out by the researcher.

Selection of Area

For the present research study, Nagpur (Maharashtra, India) was selected. Nagpur is a developing by its metro station and also famous for its Oranges; it is the second capital of Maharashtra. It is also green and clean city located at the very centre of India, almost equal distance from Kolkata, Chennai and New Delhi and Mumbai.

Nagpur is India's primary transport hub with all the nation's main highways intersecting with each other. Nagpur also has zero miles which is the centre point of India; marked by the stone obelisk that the British placed there, on whose surface is an engraved list of cities (spelt the old-fashioned way) with distances to each of them. This city of wide, lush gardens and religious sites is culturally alive, and regularly hosts handicrafts exhibitions, tribal dances, and folk-art programmes.

Fig: (Nagpur Map)

Selection of Samples

The study is based on observation. The observation was carried out from January 2025 to March 2025. Accordingly, the researcher adopted an Experimental or an Analytical type of research in which observation take place on the basis of questionnaire filled up by the various hoteliers and industry experts.

The Budget Hotels where the research carried out by the researcher:

- Pride Hotel Nagpur
- The Majestic Manor
- Centre point
- Ginger Hotel
- Orient Hotel
- The Legend Inn Hotel
- Uptown hotel

The above hotels are selected by the researcher for his research

Population

"Population is any group of individuals that have one or more characteristics in common that are interest of research."

The targeted Population for study included only the Hoteliers.

Method of Data Collection

The data collection is important stage in conducting research, the objectives of study was conveyed to each and every respondent before data collection in order to get proper response. The data was collected by researcher himself and it was collected under the following heads.

1. Primary Data:

The Researcher collected Primary data by administering an observation by hoteliers

2. **Secondary Data**:

The secondary data consisted of information gathered by referring Journals, Articles, Newspapers, and Web-sites on The study of ergonomics standard in budget hotels.

Size of Samples:

Around 37 Sample size is collected and 100%, responses received.

Sample Unit:

Sample unit is limited to 37

Data Analysis

Descriptive and analytical research design had been used for the study by the researcher. The data was collected through secondary method and observation, followed Frame work of questionnaire.

ResultsAnd Discussion

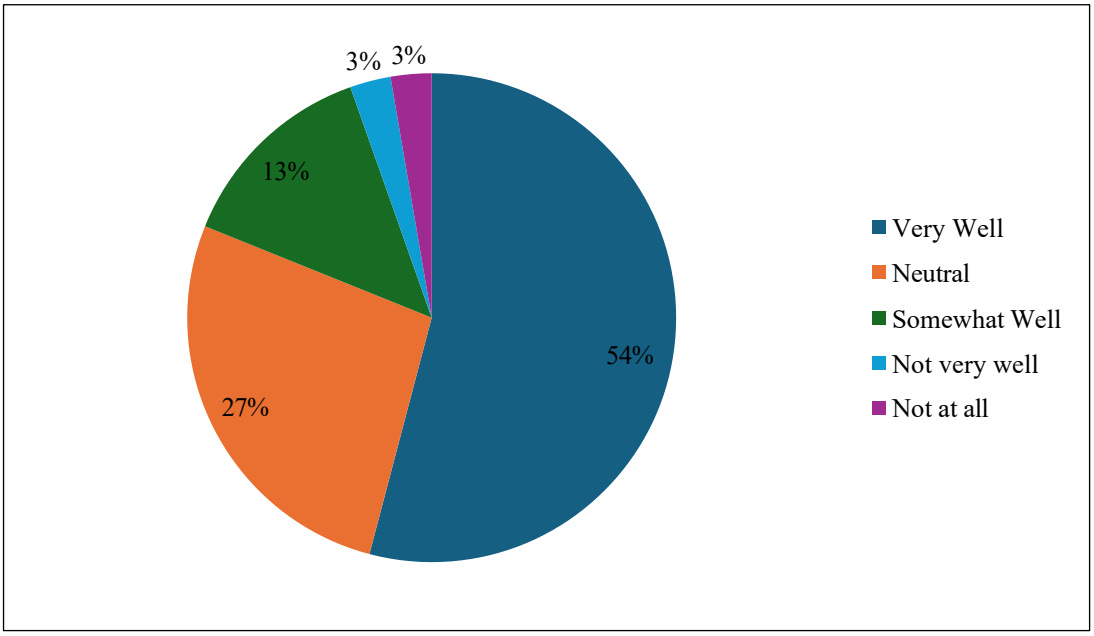
Workstation setup aligns with your job tasks

Table: 1.1

Sr.No	Particulars	No.of response	Percentage
1	Very Well	20	54.1%
2	Neutral	10	27%
3	Somewhat Well	5	13.5%
4	Not Very Well	1	2.7%
5	Not at all	1	2.7%
	Total	37	100%

From the above table it has been observed that, 20 respondents (54.1%), feel their setup aligns "Very Well" with their tasks. Additionally, 10 respondents (27%) indicated a "Neutral" alignment, while 5 (13.5%) rated their setup as "Somewhat Well." A small percentage, 1 respondent each (2.7%), felt their setup aligned "Not Very Well" or "Not at all" with their job tasks.

Fig: 1.



Equipment adjustable to suit your needs

Table: 1.2

Sr.No	Particulars	No.of response	Percentage
1	Yes	32	88.9%
2	No	4	11.1%
	Total	36	100%

From the above table it has been observed that, out of 36 respondents, 88.9% (32 individuals) reported that their chair, desk, and equipment are adjustable to meet their needs. In contrast, 11.1% (4 individuals) indicated that their workspace setup is not adjustable.

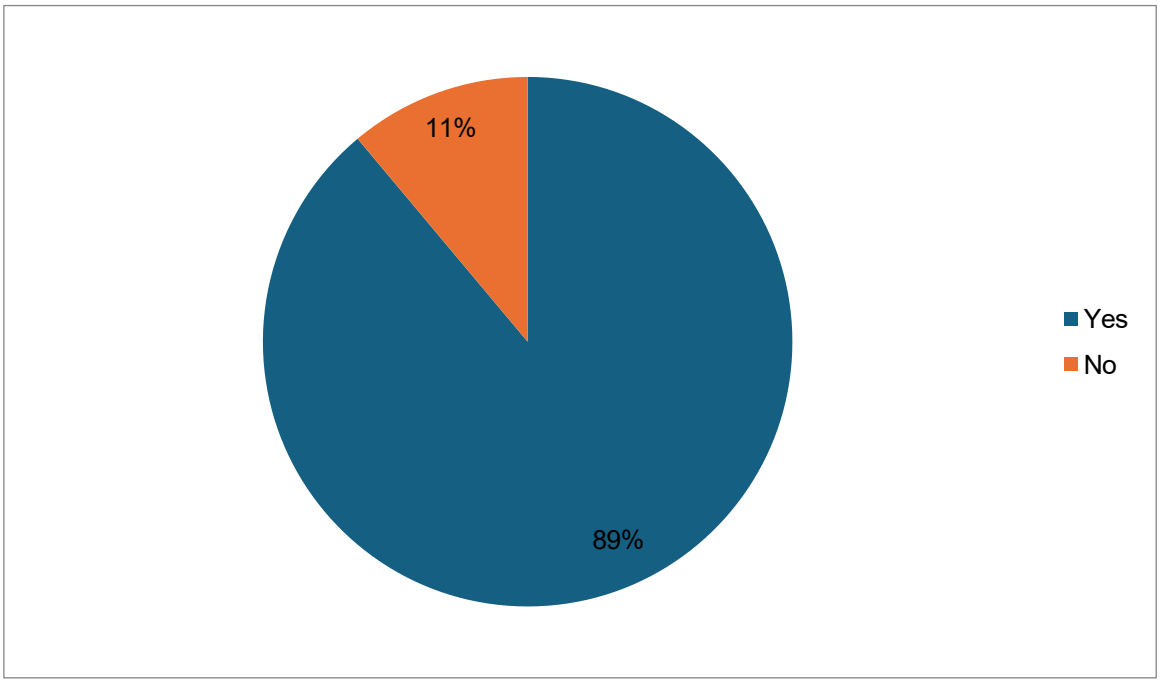


Fig: 1.2

Easy to reach your tools and equipment without straining

Table: 1.3

Sr.No	Particulars	No.of response	Percentage
1	Very Easy	16	44.4%
2	Somewhat Easy	8	22.2%
3	Neutral	10	27.8%
4	Somewhat Difficult	3	8.3%
5	Very Difficult	0	0%
	Total	36	100%

From the above table it has been observed that among the 36 respondents, 44.4% (16 individuals) found it very easy to reach their tools and equipment without straining, while 22.2% (8 individuals) found it somewhat easy. A neutral response was given by 27.8% (10 individuals), indicating neither easy nor difficulty. Only 8.3% (3 individuals) found it somewhat difficult, and no one reported it being very difficult.

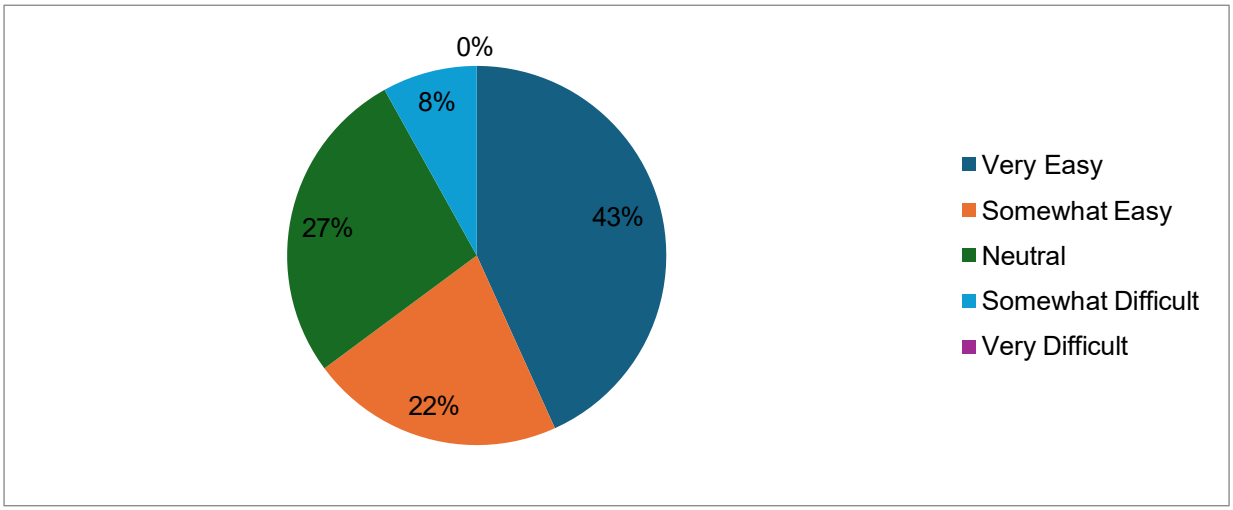


Fig: 1.3

Layout enhances or hinders your workflow

Table: 1.4

Sr.No	Particulars	No.of response	Percentage
1	Enhances	22	59.5%
2	Hinders	15	40.5%
	Total	37	100%

From the above table it has been observed that out of 37 respondents, 59.5% (22 individuals) feel that their workspace layout enhances their workflow, while 40.5% (15 individuals) believe it hinders their efficiency.

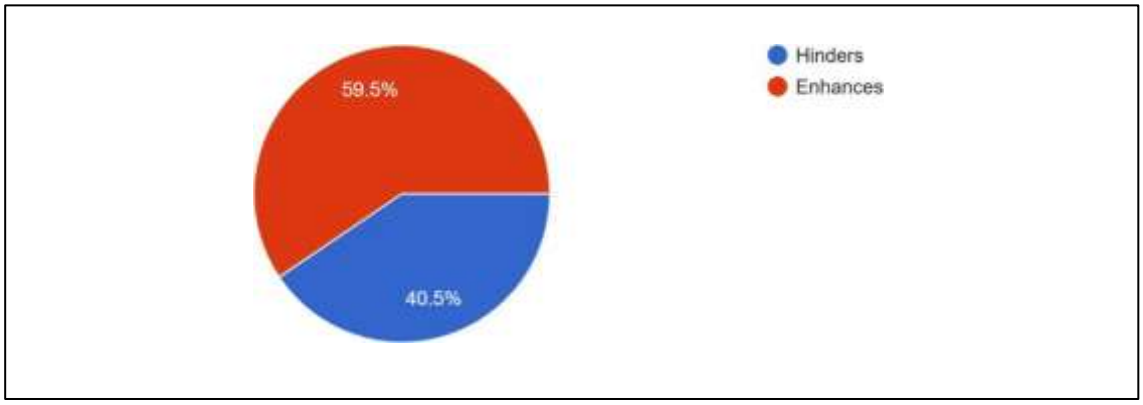


Fig: 1.4

Setup allow you to complete tasks efficiently

Table: 1.5

Sr.No	Particulars	No.of response	Percentage
1	Yes	33	89.2%
2	No	4	10.8%
	Total	37	100%

From the above table it has been observed that among 37 respondents, 89.2% (33 individuals) stated that their workstation setup allows them to complete tasks efficiently. However, 10.8% (4 individuals) feel that their setup does not support efficiency.

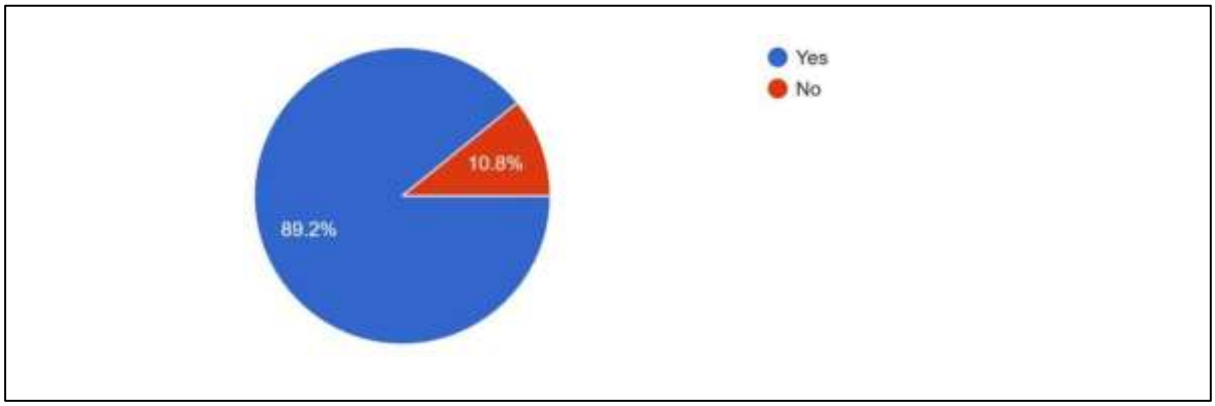


Fig: 1.5

Workstation affected your productivity

Table: 1.6

Sr.No	Particulars	No.of response	Percentage
1	Never	12	32.4%
2	Rarely	11	29.7%
3	Sometimes	12	32.4%
4	Always	2	5.4%
	Total	37	100%

From the above table it has been observed that out of 37 respondents, 32.4% (12 individuals) have never experienced productivity issues due to workstation discomfort, while 29.7% (11 individuals) have rarely faced such problems. However, 32.4% (12 individuals) reported that discomfort sometimes affects their productivity, and 5.4% (2 individuals) stated that it always does.

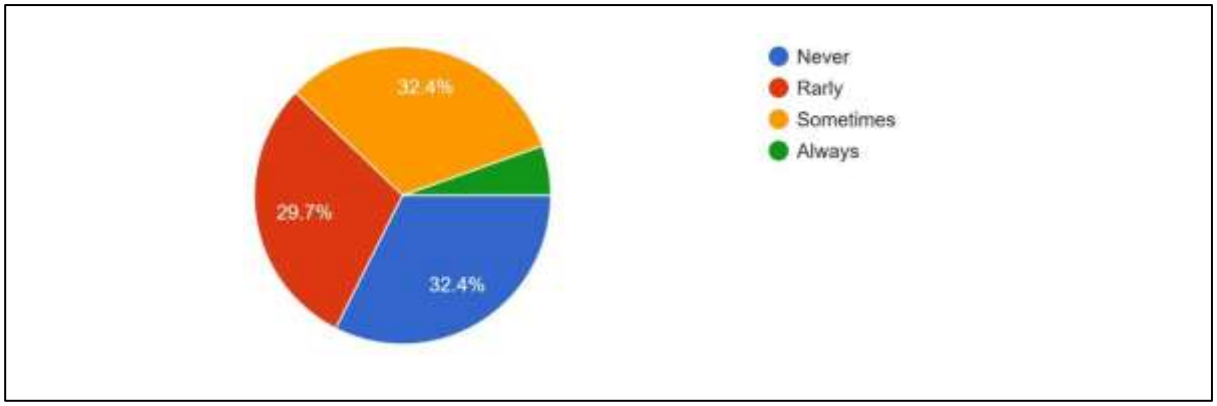


Fig: 1.6

Maintain focus without frequent physical discomfort

Table: 1.7

Sr.No	Particulars	No.of response	Percentage
1	Yes	24	64.9%
2	No	13	35.1%
	Total	37	100%

From the above table it has been observed that among 37 respondents, 64.9% (24 individuals) reported that they can maintain focus without frequent physical discomfort, while 35.1% (13 individuals)
struggle with it.

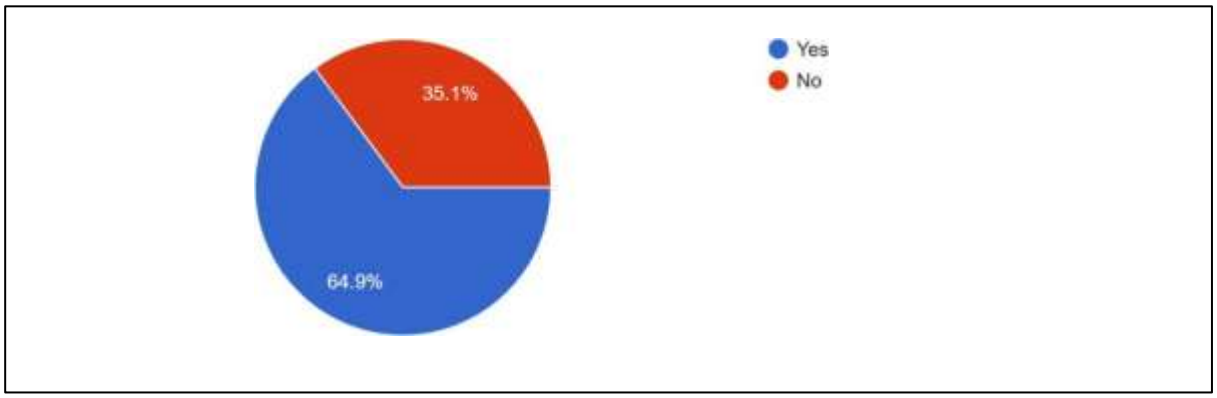


Fig: 1.7

Breaks due to physical strain

Table: 1.8

Sr.No	Particulars	No.of response	Percentage
1	Never	6	16.2%
2	Rarely	13	35.1%
3	Sometimes	14	37.8%
4	Always	4	10.8%
	Total	37	100%

From the above table it has been observed that out of 37 respondents, 37.8% (14 individuals) sometimes take breaks due to physical strain, while 35.1% (13 individuals) do so rarely. Additionally, 16.2% (6 individuals) never experience the need for breaks, whereas 10.8% (4 individuals) always take breaks due to discomfort.

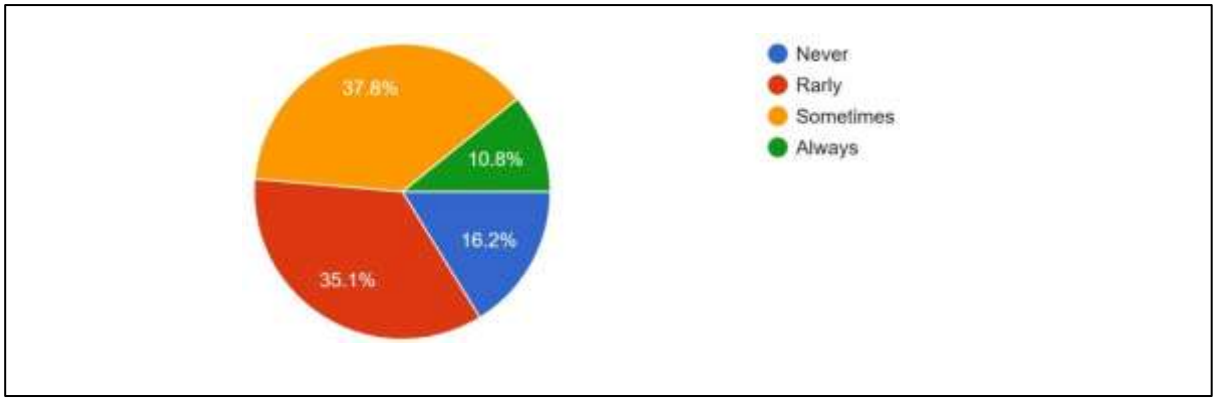


Fig: 1.8

Ergonomic tools improved your productivity

Table: 1.9

Sr.No	Particulars	No.of response	Percentage
1	Greatly improved	17	45.9%
2	Somewhat improved	17	45.9%
3	No effect	2	5.4%
4	Somewhat worsened	0	0%
5	Greatly worsened	1	2.7%
	Total	37	100%

From the above table it has been observed that among 37 respondents, 45.9% (17 individuals) reported that ergonomic tools have greatly improved their productivity, while an equal percentage (45.9%) said they have somewhat improved it. A small 5.4% (2 individuals) noticed no effect, and 2.7% (1 individual) felt that these tools greatly worsened their productivity..

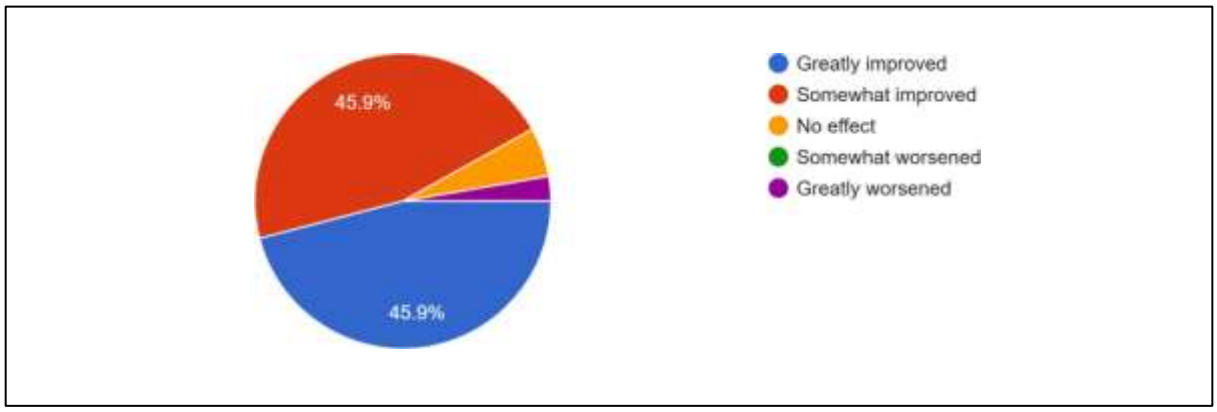


Fig: 1.9

Fatigue due to prolonged sitting or repetitive movements

Table: 1.10

Sr.No	Particulars	No.of response	Percentage
1	Never	6	16.2%
2	Rarely	16	43.2%
3	Often	10	27%
4	Always	5	13.5%
	Total	37	100%

From the above table it has been observed that out of 37 respondents, 43.2% (16 individuals) rarely experience pain,

strain, or fatigue due to prolonged sitting or repetitive movements, while 16.2% (6 individuals) never face such issues. However, 27% (10 individuals) often experience discomfort, and 13.5% (5 individuals) always struggle with it. This indicates that while many face minimal discomfort, a significant portion experiences frequent strain, highlighting the need for better ergonomic solutions.

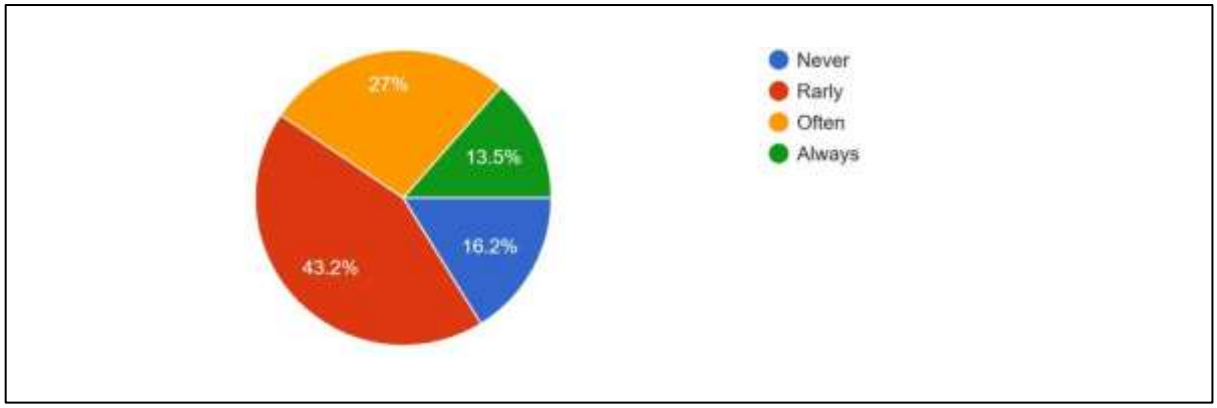


Fig: 1.10

Trained in ergonomic best practices

Table: 1.11

Sr.No	Particulars	No.of response	Percentage
1	Very well trained	11	29.7%
2	Somewhat trained	17	45.9%
3	Neutral	7	18.9%
4	Not trained at all	2	5.4%
	Total	37	100%

From the above table it has been observed that among 37 respondents, 29.7% (11 individuals) consider themselves very well trained in ergonomic best practices, while 45.9% (17 individuals) are somewhat trained. Additionally, 18.9% (7 individuals) feel neutral about their training, and 5.4% (2 individuals) have received no training at all.

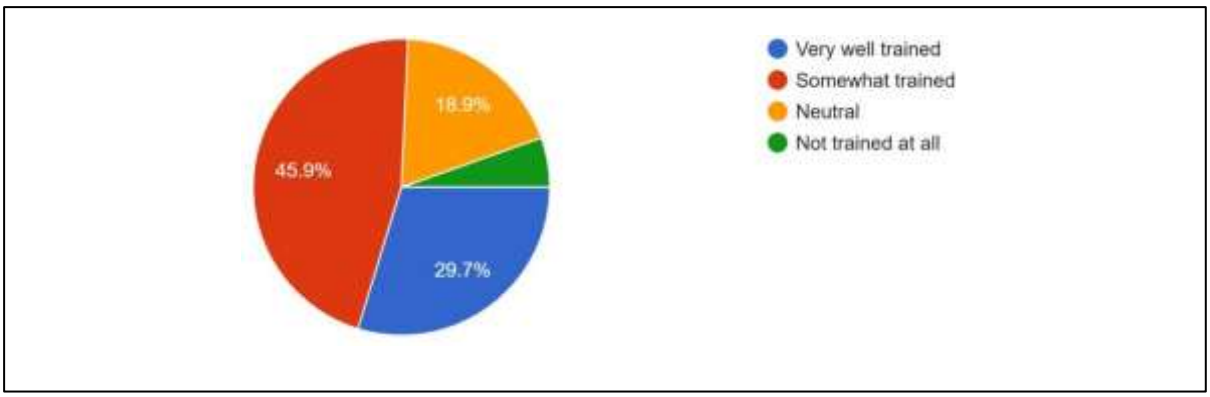


Fig: 1.11

Chair supportive and comfortable for extended use

Table: 1.12

Sr.No	Particulars	No.of response	Percentage
1	Yes	30	81.1%
2	No	7	18.9%
	Total	37	100%

From the above table it has been observed that out of 37 respondents, 81.1% (30 individuals) find their chair supportive and comfortable for extended use, while 18.9% (7 individuals) do not. This indicates that while most employees have a suitable chair, a notable percentage may require better seating solutions to improve comfort and prevent strain during long working hours.

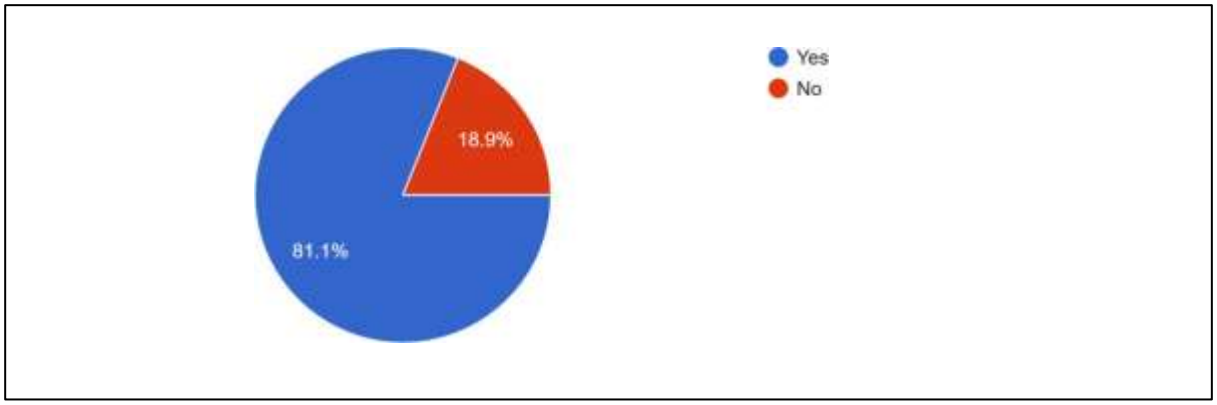


Fig: 1.12

Comfortable performing your daily tasks

Table: 1.13

Sr.No	Particulars	No.of response	Percentage
1	Very comfortable	20	54.1%
2	Somewhat comfortable	18	48.6%
3	Somewhat uncomfortable	3	8.1%
4	Very uncomfortable	1	2.7%
	Total	37	100%

From the above table it has been observed that among 37 respondents, 54.1% (20 individuals) feel very comfortable performing their daily tasks, while 48.6% (18 individuals) feel somewhat comfortable.
However, 8.1% (3 individuals) experience some discomfort, and 2.7% (1 individual) find their tasks very uncomfortable.

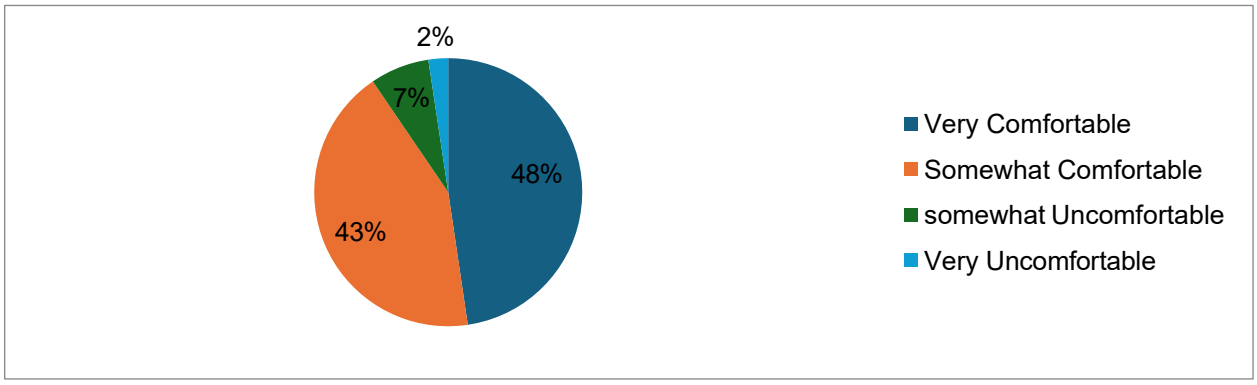


Fig: 1.13

Ergonomic discomfort, how well was it addressed

Table: 1.14

Sr.No	Particulars	No.of response	Percentage
1	Completely resolved	13	35.1%
2	Somewhat resolved	16	43.2%
3	Not really resolved	9	24.3%
4	Not addressed at all	0	0%
	Total	37	100%

From the above table it has been observed that among 37 respondents who reported ergonomic discomfort, 35.1% (13 individuals) said their issues were completely resolved, while 43.2% (16 individuals) felt they were somewhat resolved. However, 24.3% (9 individuals) indicated that their concerns were not really resolved, though no one reported that their issues were completely ignored.

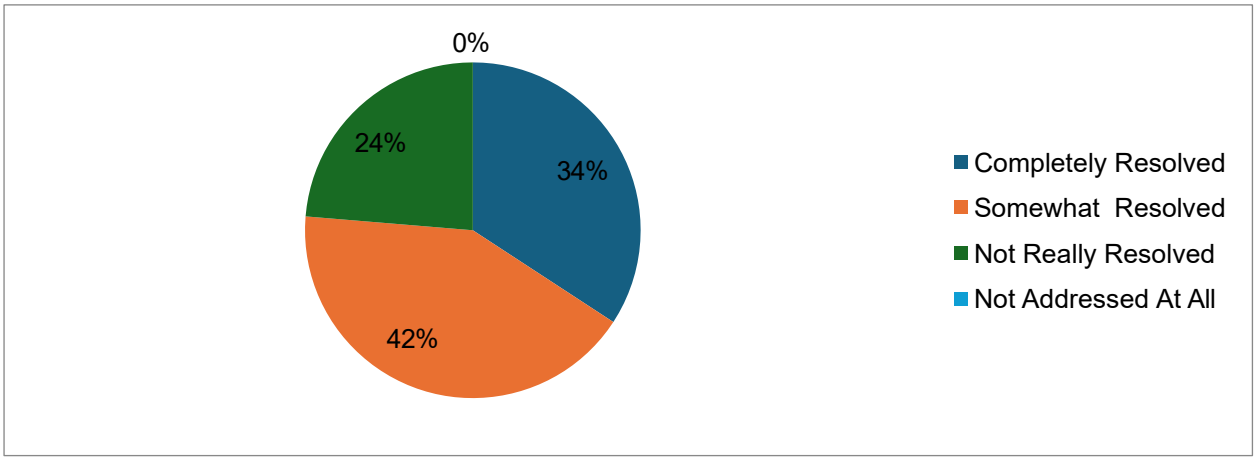


Fig: 1.14

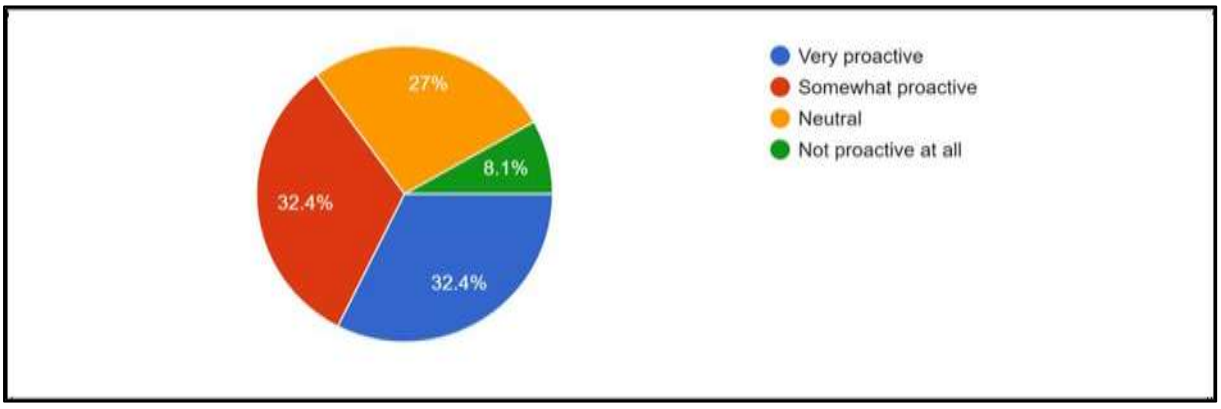
Organization address ergonomic concerns

Table: 1.15

Sr.No	Particulars	No.of response	Percentage
1	Very proactive	12	32.4%
2	Somewhat proactive	12	32.4%
3	Neutral	10	27%
4	Not proactive at all	3	8.1%
	Total	37	100%

From the above table it has been observed that among 37 respondents, 32.4% (12 individuals) believe their organization is very proactive in addressing ergonomic concerns, while another 32.4% (12 individuals) feel it is somewhat proactive. Meanwhile, 27% (10 individuals) remain neutral on the matter, and 8.1% (3 individuals) think their organization is not proactive at all.

Fig:



1.15

Workplace injuries due to poor ergonomics

Table: 1.16

Sr.No	Particulars	No.of response	Percentage
1	Yes	24	66.7%
2	No	12	33.3%
	Total	36	100%

From the above table it has been observed that out of 36 respondents, 66.7% (24 individuals) have experienced workplace injuries due to poor ergonomics, while 33.3% (12 individuals) have not. This indicates that a significant

majority have faced ergonomic-related issues, highlighting the need for better workplace adjustments and preventive measures to ensure employee well-being and safety.

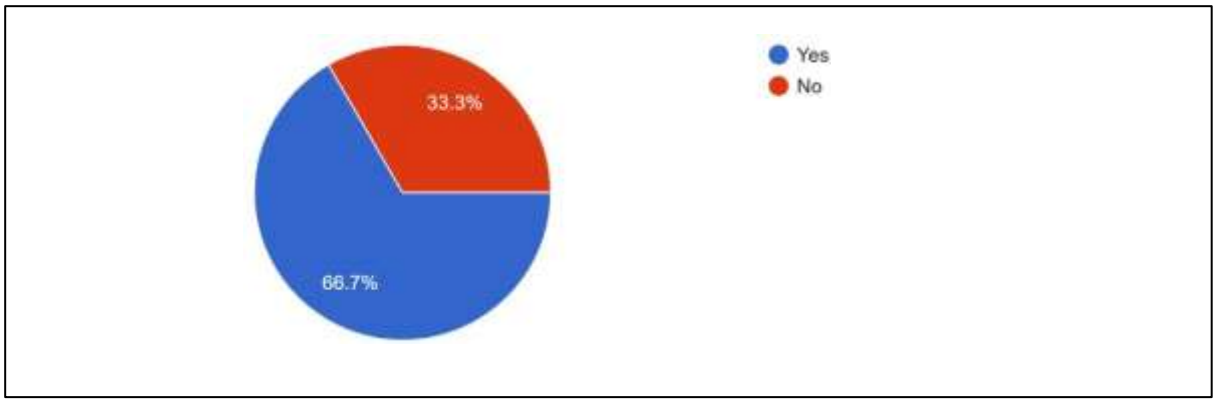


Fig: 1.16

Ergonomic improvements could reduce your risk of injury

Table: 1.17

Sr.No	Particulars	No.of response	Percentage
1	Yes	34	91.9%
2	No	3	8.1%
	Total	37	100%

From the above table it has been observed that among 37 respondents, 91.9% (34 individuals) believe that ergonomic improvements could reduce their risk of injury, while 8.1% (3 individuals) feel otherwise.

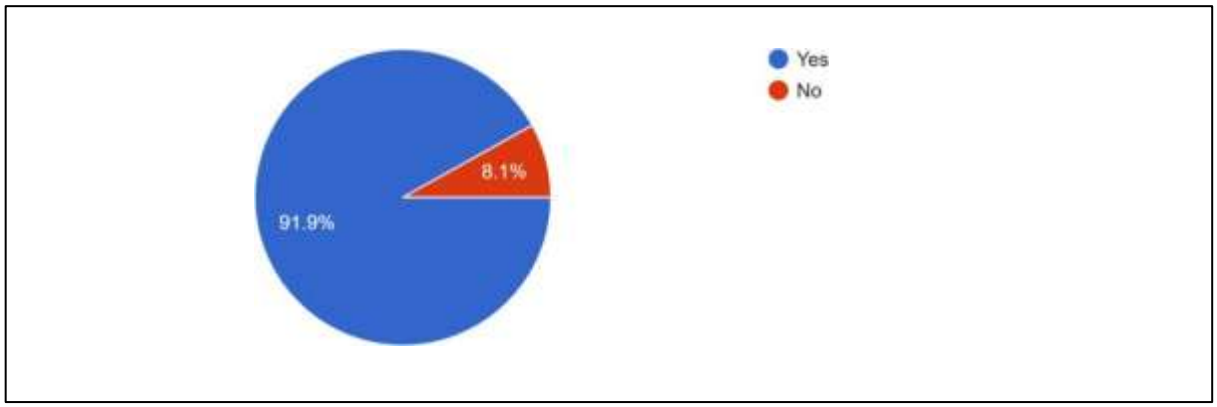


Fig: 1.17

Movements to prevent injury

Table: 1.18

Sr.No	Particulars	No.of response	Percentage
1	Yes	29	78.4%
2	No	8	21.6%
	Total	37	100%

From the above table it has been observed that among 37 respondents, 78.4% (29 individuals) are aware of the correct postures and movements to prevent injury, while 21.6% (8 individuals) are not.

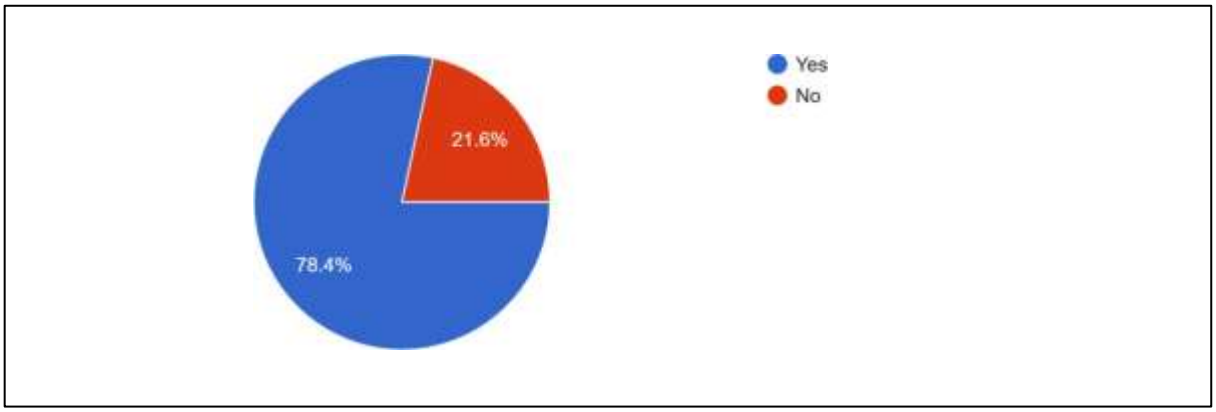


Fig: 1.18

Summary

This research delves into the critical role of ergonomics in fostering a balanced relationship between employees, equipment, the workplace, and the environment. A well-designed workspace ensures that individuals can perform their tasks with minimal physical strain, reducing discomfort and fatigue while enhancing overall efficiency. By optimizing the interaction between workers and their tools, organizations can significantly improve productivity without compromising safety or well-being.

A major focus of this study is the impact of ergonomics on work efficiency and productivity. Poor workstation design can lead to physical discomfort, repetitive strain injuries, and fatigue, all of which negatively affect performance. Implementing ergonomic solutions—such as adjustable desks, proper lighting, and supportive seating—can help employees work more comfortably and efficiently. This, in turn, reduces downtime, increases output, and enhances job satisfaction, leading to better overall organizational performance.

Another crucial aspect examined is workplace safety and comfort. A well-structured ergonomic environment not only enhances productivity but also minimizes risks associated with workplace injuries, illnesses, and errors. Musculoskeletal disorders (MSDs), often caused by poor posture or repetitive movements, can be significantly reduced with proper ergonomic interventions. Additionally, creating a comfortable and supportive work setting leads to increased employee morale and retention, ultimately benefiting the organization.

The research underscores the importance of integrating ergonomics into workplace policies to strike a balance between productivity and employee well-being. Contrary to the misconception that safety measures might hinder efficiency, findings suggest that a well-implemented ergonomic strategy enhances both safety and productivity. By investing in

ergonomic improvements, businesses can create a healthier, safer, and more efficient work environment, ultimately leading to long-term success and sustainability.

Conclusion

In conclusion, the research highlights the vital role of ergonomics in creating a well-balanced and efficient workplace. By improving the relationship between employees, equipment, the work environment, and surrounding conditions, organizations can foster a healthier and more productive workforce. The study confirms that ergonomic interventions significantly enhance work efficiency and productivity by reducing physical strain, minimizing errors, and optimizing workplace design.

Furthermore, prioritizing safety and comfort at workstations not only improves employee well-being but also decreases the risk of injuries, illnesses, and accidents. A well-structured ergonomic approach ensures that these safety measures do not compromise productivity but rather contribute to a more effective and sustainable work environment.

Overall, integrating ergonomic principles into workplace policies and design is essential for long-term success. By investing in workplace ergonomics, organizations can achieve a balance between operational efficiency and employee well-being, leading to improved performance, reduced health risks, and a safer, more comfortable work environment.

Suggestions and Recommendations

Suggestions:

1. Encourage a clean, organized, and clutter-free workspace to improve efficiency and reduce distractions.
2. Provide employees with proper training on ergonomic practices**,** including posture correction and optimal workstation setup.
3. Implement flexible work arrangements and allow for short, regular breaks to reduce fatigue and improve focus.
4. Encourage open communication between employees and management to identify and address workplace challenges that hinder productivity.
5. Ensure proper workstation setup by positioning computer screens at eye level and maintaining ergonomic keyboard and mouse placement.
6. Encourage physical movement and stretching exercises to prevent musculoskeletal disorders (MSDs).
7. Implement clear safety guidelines and provide employees with training on proper equipment handling and emergency procedures.

Recommendations:

1. Conduct regular ergonomic assessments to ensure that workstations, tools, and equipment align with employee needs.
2. Implement adjustable and user-friendly equipment that accommodates different body types and working styles.
3. Invest in ergonomic furniture such as adjustable chairs, sit-stand desks, and wrist supports to enhance comfort.
4. Improve workplace lighting and reduce glare to prevent eye strain and discomfort.
5. Establish a workplace safety policy that includes regular risk assessments and preventive measures.
6. Utilize productivity-enhancing tools, such as task management software and automation, to streamline workflows.
7. Provide access to relaxation areas where employees can take short breaks to alleviate physical strain and mental fatigue

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Annexure

The study ergonomic standards in budget hotels of Nagpur

Name:

1) How well does your workstation setup align with your job tasks?

- o Very well
- o Somewhat well
- o Neutral
- o Not very well
- o Not at all

2) Are your chair, desk, and equipment adjustable to suit your needs?

- Yes
- No

3) How easy is it to reach your tools and equipment without straining?

- Very easy
- Somewhat easy
- Neutral
- Somewhat difficult
- Very difficult

4) Do you feel that your workspace layout enhances or hinders your workflow?

- Enhances
- Hinders

5) Does your workstation setup allow you to complete tasks efficiently?

- Yes
- No

6) Has discomfort from your workstation affected your productivity?

- Never
- Rarely
- Sometimes
- Always

7) Are you able to maintain focus without frequent physical discomfort?

- Yes
- No

8) How often do you take breaks due to physical strain?

- Never
- Rarely
- Sometimes
- Always

9) Have ergonomic tools (e.g., standing desks, wrist supports) improved your productivity?

- Greatly improved
- Somewhat improved
- No effect
- Somewhat worsened
- Greatly worsened

10) Do you experience pain, strain, or fatigue due to prolonged sitting or repetitive movements?

- Never
- Rarely
- Often
- Always

11) How well are you trained in ergonomic best practices?

- Very well trained
- Somewhat trained
- Neutral
- Not trained at all

12) Is your chair supportive and comfortable for extended use?

- Yes
- No

13) How comfortable do you feel performing your daily tasks?

- Very comfortable
- Somewhat comfortable
- Somewhat uncomfortable
- Very uncomfortable

14) If you reported ergonomic discomfort, how well was it addressed?

- Completely resolved
- Somewhat resolved
- Not really resolved
- Not addressed at all

15) How well does your organization address ergonomic concerns?

- Very proactive

- Somewhat proactive
- Neutral
- Not proactive at all

16) Do you feel that ergonomic improvements could reduce your risk of injury?

- Yes
- No

17) Are you aware of the correct postures and movements to prevent injury?

- Yes
- No

18) Have you experienced any workplace injuries related to poor ergonomics?

- Yes
- No