

Healthy Use of New Display Screen Equipment Study

A number of risks to health have been associated with the use of computer technology for work. These included musculoskeletal disorders (MSDs), visually-related problems (e.g. eye strain, headaches), and psychosocial issues (e.g. stress).

Until now, most of the studies on the extent of such problems were focused on conventional technology (e.g. desktop computers).

There was some evidence to suggest that increasing use of smartphones and tablets (called the new Display Screen Equipment or DSE) could result in potential negative safety and health effects on the working population.



Objectives



Determine the prevalence of new DSE-related health and safety problems in workers



Explore the association between different conditions of new-DSE usage and their adverse health and safety outcomes



Methodology



A survey on **918 respondents** from **27 companies** was conducted to understand the prevalence of Musculoskeletal Disorder (MSD) issues at the workplace.



Field and workplace observations were also conducted to observe postures of individuals



Key Findings

Prevalence



MSD Issues

Each hour of...

personal #1 smartphone use resulted in an approximate

- **12%** increased risk of MSD symptoms at the **thumb**; and
- **11%** increased risk of MSD symptoms at the **shoulder**.



personal tablet use resulted in a **10%** increased risk of MSD symptoms at the **forearm**.



#1 This would be the same for long periods of device use for work. However from this study, few reported using these devices for long periods at work.

Public observations showed that...

14% of observed smartphone users had a neck angle of **>45°**, which **increased risk of MSD symptoms at the neck**.



Other Issues

Predominant symptoms such as **headaches (44%)** and **eyestrain (41.5%)** were likely attributed to extended use of new DSE.



Recommendations



Avoid awkward postures

Avoid looking down at your smartphone for **prolonged periods**.



Maintain good work-life balance

Limit the use of new DSE after work hours as it can result in **inability** to “**switch off**” from work.



Take regular breaks

Take short breaks after **every hour** of new DSE use.

Association



MSD Issues

Holding the tablet at an **upper arm angle of >45°** was associated with MSD symptoms at the **hand, wrist and forearm**.



Work-life balance

Using a **smartphone** for **work activities** when **not at work** is associated with a **positive experience**, but not when the use is **expected** of you.



Choosing a tablet for **work activities** when **not at work** is associated with a **negative experience** regardless if it is expected or not of you.



Safety Issues

Distractions caused by **use of new DSEs** may pose risk of injuries such as **cuts, sprains and even fractures**.



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