

Knowledge and Attitude Towards the Forward Head Posture in Adult with High Computer Uses

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Abstract

Background

Forward head posture (FHP) is a prevalent issue among adults with high computer usage, leading to various musculoskeletal problems. Understanding the knowledge and attitudes toward FHP is essential for developing effective preventive measures. This study aims to assess the knowledge and attitudes toward FHP in adults aged 25-45 who use computers extensively.

Aim: The aim of this study is to investigate the knowledge and attitudes towards forward head posture (FHP) among adults aged 25-45 who are heavy users of computers.

Setting: The study will be conducted online, utilizing a Google Form-based survey methodology. Participants will be recruited from various occupational sectors and community groups where extensive computer use is common.

Design: This research will employ a cross-sectional survey design to gather data on participants' knowledge and attitudes towards FHP. A structured questionnaire will be developed and administered via Google Forms, consisting of multiple-choice and Likert scale questions.

Subjects: The subjects of this study will be adults aged 25-45 years who self-identify as heavy users of computers. Participants will be recruited through online platforms, social media, and professional networks, ensuring a diverse representation across different professions and demographics.

Method:

- 1. Survey Development:** A comprehensive questionnaire will be developed based on existing literature and expert consultations. The survey will include sections to assess participants' knowledge about FHP, its causes, health implications, and preventive measures. Attitudinal questions will explore participants' perceptions of FHP and their readiness to adopt ergonomic practices.
- 2. Data Collection:** The survey will be distributed electronically via Google Forms to reach potential participants efficiently. Clear instructions and informed consent will be provided at the beginning of the survey to ensure ethical considerations are met. Data collection will be conducted over a specified period to ensure an adequate sample size and representation.
- 3. Analysis:** Quantitative data from the survey responses will be analysed by using statistical methods, such as descriptive statistics and inferential tests (e.g., chi-square test, correlation analysis). The

analysis will focus on identifying patterns in knowledge levels, attitudes, and potential associations between variables related to FHP.

- 4. Ethical Considerations:** The study will adhere to ethical guidelines, ensuring participants' anonymity, confidentiality, and voluntary participation. Informed consent will be obtained from all participants prior to their participation in the survey.

Introduction:

The prolonged use of Electronic Device Such as smartphone, tablets, And Computers has Become Ingrained in modern society , leading to a surge in cervical pain FHP among adults age 25-45 these population spends a significant amount of time engaging with stream leading to poor posture habits and muscular skeletal issues. The impact of such postural deviation extend beyond physical discomfort potentially causing long term health complications and decrease quality of life

These days, processing a large amount of data, and maintaining a global database using a computer commonly called visual display terminal (VDT))Is becoming increasingly popular. According to the National Statistical Office, with an increasing amount of people in possession of a computer, And an extended internet network, the weekly mean time that a person will spend at a computer Sensory has dramatically increased, From 5.9 hours in 1997 to 14.6 hours in 2003. Also, 56.2% of computer users use the machine for 10 hours a week or more.

Computers improve work productivity and efficiency, but, on the other hand, using them excessively can result in VDT syndrome, With, complaints of musculoskeletal pains, visual disorders, headache, and other symptoms Among these complaints, musculoskeletal problems is the most common Regarding this.¹²

The World Health Organization does work-related musculoskeletal disorders as 'injuries in muscles, tendons, peripheral nerves, and vascular vessels, possibly caused by, precedent to, Or worsened by repetitive or continuous use of a certain body part'.¹²

Among the effect of using computer for long time can cause musculoskeletal issues such as forward head posture and keeping a posture in a position for long time can also cause musculoskeletal problems

Previous studies reported that poor working postures with a computer, for long periods of time, are associated with neck pain due to musculoskeletal disorder.⁵

Other studies regarding balance reported that reduced sensation of joints is a major contributor to reducing balancing ability.

However, there have been no studies directly evaluating the effects of using computers on balancing ability;

Studies have evaluated only balancing ability, regarding the neck, mainly in patients complaining of pain Also,

They have not used objective measures to quantify body sway.¹²

A recent study shows that almost 78% of population have its neck in working position within 24 hours causing continuous stress on neck and shoulders which is forcing the neck in anterior or forward head posture³

Subject and method:

1. Participate

A total of 78 participants were recruited in the given time period out of which 57.7% males and 41.3% females, respectively, between the age group of 25 to 45 years. The participants comprised patients

suffering from most common musculoskeletal condition i.e. forward head posture. Children's are excluded from this study because we are taking adults who are working and also we exclude old age people due to age related condition.

2. Study design and research setting:

This is cross-sectional descriptive study was conducted among the people who are working in front of computer for long period of time. Participants who are working minimum 2hr and maximum 6hr working on computer were only recruited for this study, which was the major inclusive criteria, and other inclusive criteria are age between 25 to 45 year. It was established by a survey method and we have conducted our research and ask some questions through Google form. Participants are added by circulating Google form by WhatsApp. We are exclude those who have pre existing musculoskeletal condition, age below 25 and above 45. We have taken our participants from urban area of MP in Indore. Sample size 78 participants In which 57.7% males and 41.3% females, respectively.

Instrumentation and Study Tool:-

Participants The study involved a sample of 78 adults aged between 25 and 45 who use computers extensively. The demographic distribution of participants is predominantly young, with the majority falling within the 25-30 age range. The gender distribution includes 45 males, 32 females, and 1 individual identifying as a gender other than male or female. **Survey Instrumental structured questionnaire** was developed as the primary data collection tool. The questionnaire was designed to assess participants' knowledge and attitudes toward forward head posture (FHP) and included the following sections: **Demographic Information:** Age Gender Daily screen time **Knowledge about Forward Head Posture (FHP):** A series of multiple-choice and true/false questions designed to measure the participants' understanding of FHP, its causes, symptoms, and potential long-term effects. **Attitude towards Preventive Measures:** A Likert scale (ranging from 1 to 5, where 1 = Strongly Disagree and 5 = Strongly Agree) to gauge participants' attitudes towards adopting preventive measures for FHP. This section included statements about the importance of posture correction, willingness to engage in exercises, and the perceived effectiveness of ergonomic interventions. **Validation and Reliability** The questionnaire was reviewed by experts in the field of ergonomics and physiotherapy to ensure content validity. A pilot study was conducted with a small group of participants to test the reliability of the instrument. The feedback from the pilot study was used to refine the questionnaire for clarity and comprehensiveness. **Data Collection Procedure** Participants were recruited through online platforms and workplaces where extensive computer use is common. The questionnaire was administered electronically via a survey tool (e.g., Google Forms, Survey Monkey), allowing for efficient data collection and ease of access for participants. Informed consent was obtained from all participants before they completed the survey

Data Analysis:

The data collected from the questionnaire were analysed using statistical software. Descriptive statistics were used to summarize the demographic data, knowledge levels, and attitudes of the participants. Inferential statistics, including One-Way ANOVA (Welch's) and correlation t-tests, were employed to test the hypotheses and explore relationships between variables. **One-Way ANOVA (Welch's):** Used to determine if there were any significant differences in daily screen time based on knowledge levels regarding FHP, **Correlation t-test:** Used to assess the relationship between knowledge levels about FHP and attitudes towards adopting preventive measures

Great, let's put this information together to draft the results, conclusion, and discussion sections of your research paper.

Result:

A) demographic variables :

1. Age :-

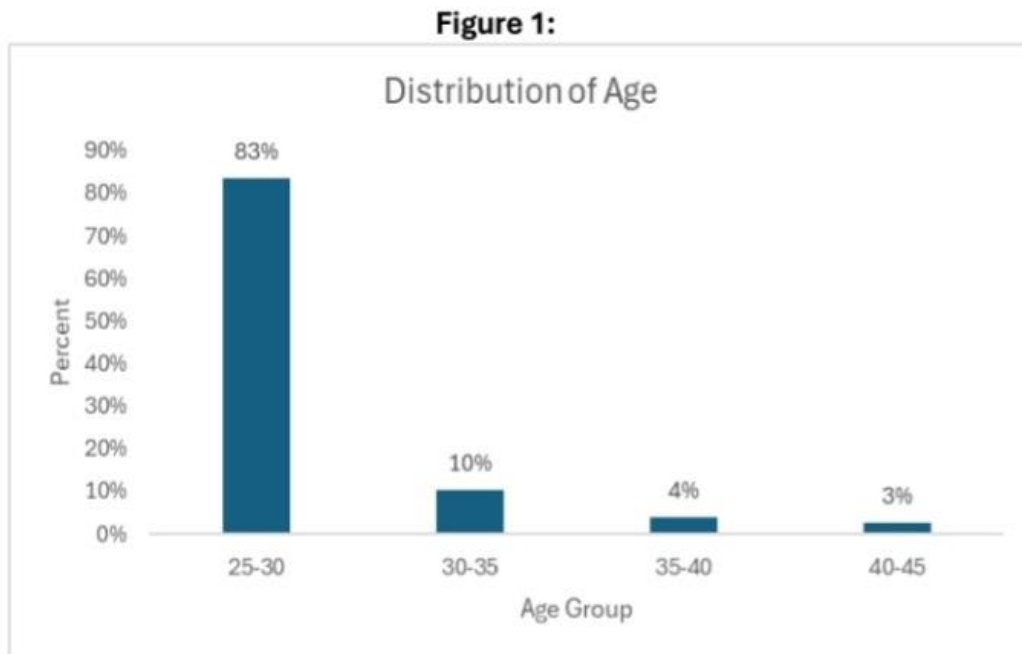


Figure 1 shows the distribution of individuals across different age groups. The majority of individuals (65 out of 78) fall within the 25-30 age range, indicating a young demographic. There is a sharp decline in the number of individuals as the age increases, with very few individuals in the 30-35, 35-40, and 40-45 age groups. This distribution suggests that the population being studied is predominantly young, or that the data collection is focused on a younger demographic.

2. Gender:

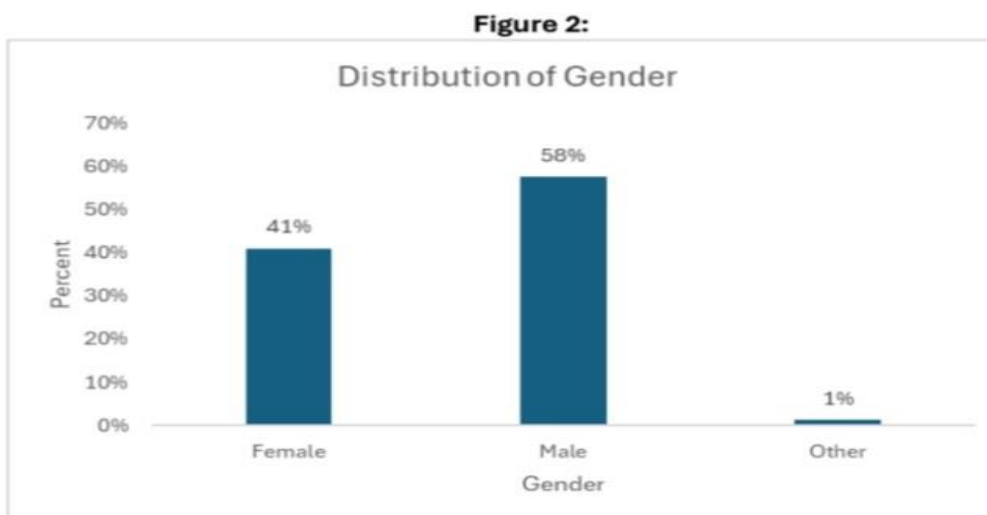


Figure 2 shows the distribution of individuals by gender. The majority of individuals are male (45 out of

78), followed by female (32 out of 78). There is a small representation of individuals who identify as a gender other than male or female (1 out of 78).

Inferential

Analysis**

- **H0_1: Knowledge Level and Screen Time**

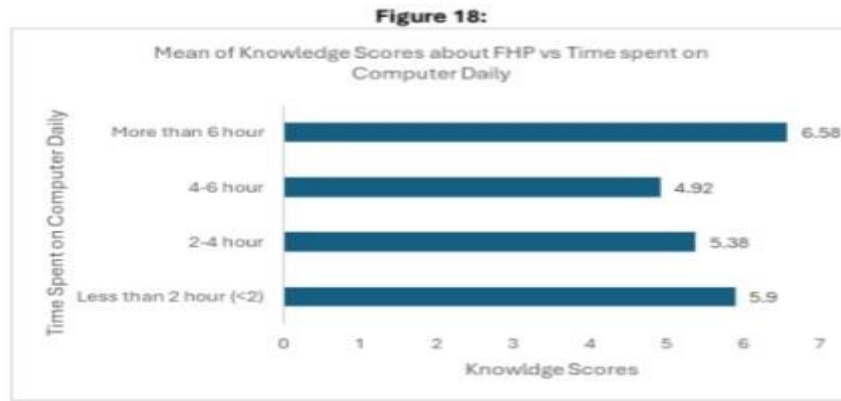


Table 2: One-Way ANOVA (Welch's) of Daily Screen Time on Computer

	F	df1	df2	p
Knowledge Level	1.76	3	25.7	0.181

- Figure 18 and Table 2 display the results of a One-Way ANOVA (Welch's) test. The F-statistic is 1.76, with numerator degrees of freedom (df1) of 3 and denominator degrees of freedom (df2) of 25.7. The p-value is 0.181. Since the p-value is greater than the typical significance level of 0.05, we fail to reject the null hypothesis. This indicates there is not enough evidence to suggest a significant difference in daily screen time on the computer based on knowledge level.

- **H0_2: Knowledge Level and Attitude Towards Preventive Measures**

Table 4: Correlation t-test between Knowledge about FHP and Attitude towards adopting preventive measures

Variables	Karl Pearson's Coefficient of Correlation (r)	t-value	df	Confidence Interval at 95% level	p-value
Knowledge about FHP	0.3236398	2.9819	76	0.109 to 0.509.	0.003848
Attitude towards adopting preventive measures					

- Table 4 presents the results of a correlation t-test between knowledge about forward head posture (FHP) and attitude towards adopting preventive measures. The correlation coefficient (r) is 0.324, indicating a moderate positive relationship between knowledge level and attitude. The p-value is 0.003848, which is less than the common alpha level of 0.05, signifying statistical significance. The 95% confidence interval

for the true correlation coefficient ranges from 0.109 to 0.509, reinforcing that the correlation is statistically significant. The t-value of 2.982 with 76 degrees of freedom further supports the significance of the correlation.

Discussion:

The findings of this study provide important insights into the demographics, knowledge, and attitudes of adults with high computer usage concerning forward head posture. The predominance of young adults in the sample may reflect the higher likelihood of computer use among this age group.

Knowledge and Screen TimeThe lack of a significant difference in screen time based on knowledge levels suggests that other factors may play a more crucial role in determining screen time habits. It is possible that even with greater knowledge about the risks associated with FHP, behavioural changes regarding screen time are not easily implemented without additional interventions.

Knowledge and AttitudeThe moderate positive correlation between knowledge and attitude towards preventive measures highlights the potential for educational interventions to positively influence attitudes. While the relationship is not strong, it is statistically significant, indicating that increasing awareness and knowledge about FHP could lead to more favourable attitudes towards adopting preventive measures.

Implications for PracticeThe findings suggest the need for targeted educational programs to raise awareness about the risks of FHP and promote positive attitudes towards preventive measures. Such programs could be particularly beneficial for younger adults who are the primary users of computers.

Limitations and Future ResearchThe study's limitations include a relatively small sample size and the predominance of a younger demographic, which may limit the generalizability of the findings. Future research could focus on larger and more diverse populations to validate these findings and explore additional factors that may influence knowledge and attitudes towards FHP. By addressing these areas, this study contributes to the understanding of FHP in adults with high computer usage and provides a foundation for future interventions aimed at mitigating the risks associated with prolonged computer use

Conclusion:

The study aimed to investigate the knowledge and attitudes toward forward head posture (FHP) among adults aged 25-45 who use computers extensively. The results indicate that the majority of participants are young adults, predominantly in the 25-30 age range, and more males participated than females.

- 1. Knowledge Level and Screen Time** - The One-Way ANOVA (Welch's) test revealed no significant difference in daily screen time on the computer based on knowledge levels regarding FHP. This suggests that knowledge level does not influence the amount of time individuals spend on computers.
- 2. Knowledge Level and Attitude Towards Preventive Measures** - The correlation analysis indicated a statistically significant moderate positive relationship between knowledge level and attitude towards adopting preventive measures. This implies that as individuals' knowledge about FHP increases, their attitudes towards preventive measures become more positive, although the relationship is not very strong.

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