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Knowledge, Attitude and Practice Regarding Body Posture Among UTHM Students

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Abstract

Observation found that most UTHM students still do not practice the correct body posture while standing, sitting and sleeping. Therefore, this study was conducted to compare the level of knowledge, attitude and practice regarding body posture between genders among UTHM diploma students. The significant difference in level of knowledge, attitude and practice of body posture between male and female of UTHM diploma students was also determined. Then, the relationship between knowledge, attitude and practice regarding body posture among UTHM diploma students was identified from the Pearson correlation result. In this paper, a cross-sectional survey among 207 diploma students from UTHM Pagoh was conducted which has seven programme; Diploma in Applied Science (DAU), Mechanical Engineering (DAM), Animation Technology (DAG), Civil Engineering (DAA), Electrical Engineering (DAE), Information Technology (DAT) and Chemical Engineering Technology (DAK) using Google Forms questionnaire. Data collected was analysed using a Statistical Package for Social Science (SPSS) in version 27. The finding showed that female students have a high percentage of level of knowledge and practice regarding body posture, compared with male students. However, male students have a high percentage of level of attitude regarding body posture compared with female students. Based on gender, there were no significant difference in terms of knowledge and attitude of body posture. However, there is exists a significant difference in terms of practice. Moreover, there was a highly significant and moderate positive correlation between knowledge and attitude. However, there was a weak negative correlation between knowledge and practice because the question from the google form questionnaire is more towards to bad habits and weak positive correlation between attitude and practice. The result could be concluded that male and female diploma students have a basic knowledge and attitude of body posture but still have a poor practice of good body posture. The result of this study could be improved by incorporating pictures alongside the questionnaires. So that respondents could give their responses precisely.

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1. Introduction

Posture is the alignment of body segments by maintaining an upright position and defined as the mechanical for the relationship of the different parts of body with each other. The correct body posture defined as position which can minimize stress placed on each joint [1]. The knowledge for body posture includes the healthy posture, which state of muscle and skeletal equilibrium that protects the body structures and body posture independently or related on the attitude while erect, sitting, bend and stooping [2]. Additionally, the knowledge of body posture also includes the bad impact when practicing poor body posture that becomes a growing problem and there also trend toward younger age groups. Young adults, especially college students who spend too much time sitting in a slouched position while studying, using a computer and during daily activities are likely to have spinal disorders and pain [3].

Posture is the condition of the body where use to maintain an upright position. Position is also known as the relationship between different parts of the body which every part depends on each other and not only affected by behavioral but also physical environment situation [4]. Body posture is a psychomotor habit associated with physical development, body composition, and structure. Posture is a highly improved movement act, not a static set of body segments. Its health value is frequently highlighted by impacting the arrangement and operation of internal systems and organs [5].

A better understanding about ergonomic risk factors for each working environment and daily activities is important because such risk factors can lead to several adverse consequences [6]. The best practice and way to improve body posture is trying to focus on exercise that can strengthen your core, abdominal and low back muscles, your spine and pelvis. Particularly, exercises for the correct postural disorders should be done carefully at every age [1].

The objectives of this study are to compare the level of knowledge, attitude and practice regarding body posture between genders among UTHM diploma students, to determine the significant difference in terms of knowledge, attitude and practice of body posture based on gender and to identify relationship between knowledge, attitude and practice regarding body posture among UTHM diploma students.

2. Materials and Methods

2.1 Study Design and Participants

A cross-sectional, web survey was conducted during second week of the semester as most of the student just started their class during that week. This questionnaire was distributed to the student of UTHM Pagoh exactly after a week the question were made. As for the targeted respondent, 207 students of Year 1 and Year 2 diploma students were assumed to answer the survey questionnaire. These questionnaires were distributed informally through online platform including “WhatsApp”, “Instagram” and “Telegram”. As for the content of the questionnaire, it was divided into 3 sections, which comprise demographic questions, knowledge and attitude and also practice related to our body posture. All of this questionnaire for every section were using “multiple choice grid” option which its range is include “strongly disagree”, “disagree”, “agree”, and “strongly agree”. This questionnaire was created by using Google Form. As for the data of respondents will be extracted into Excel Platform and analyze by using the Statistical Package for the Social Science (SPSS) platform. A questionnaire was used in the research as an instrument to collecting data. The purpose of the questionnaire was to gather information about the respondent's demographic data (age, gender), year of study, and courses taken in university. The survey instrument used in this study included of an agree or disagree responses segment. Three categories made up the questions which are “Knowledge”, “Attitude” and “Practice”. Twelve questions make up the "Knowledge” part. Their purpose is to find out how much the respondent knows about proper body posture. Six questions on “Attitude” measure perception, impact and care for the body posture. Nine questions make up the “Practice” section, which assesses how well respondents apply their daily positions. Google Form responses were used to assess "Knowledge," "Attitude" and "Practice", and the percentage option in SPSS software was used to analyze the results.

2.2 Instruments

The questionnaire was developed to collect socio-demographic data (age, gender), the respondents’ year of study, and university courses studied. The knowledge, attitude, and practice were evaluated using Google Forms responses and analysed by percentage option in SPSS software.

2.2.1 Google Forms Questionnaire

In order to assess the stated objectives, the questions were divided into four sections: demographic section, knowledge of body posture, attitude of body posture and practice of body posture. The data obtained will be analyzed using Statistical Package for the Social Science (SPSS) platform to analyze and compare the relation between knowledge, attitude and practice level of body posture between male and female diploma students in UTHM.

For questions regarding the knowledge and attitude of body posture, the students were asked to choose their answer based on their own knowledge and opinion, and the correct answer will determine the level of knowledge. Then, the students also were asked to tell about their daily routine in practicing body posture.

2.3 Statistical Analysis

As for data collected from questionnaire were analyze statistically by using SPSS software. SPSS software is software used to analyze scientific data related to social science issue. In this research SPSS software version 27 were used to analyze data collected from respondent regarding to their knowledge, attitude and practice on body posture issue. SPSS software provides table to produce percentage for demographics, knowledge and attitude and also practice of body posture. Additional information such as correlation of knowledge, attitude and practice, t-test for every section also obtained from the same software.

3. Results and Discussion

Below are the results and discussion of knowledge, awareness and practice regarding body posture among UTHM Pagoh students.

3.1 Results

Table 1 shows the respondent's demographic data used to compare the level of knowledge, awareness, and practice levels of body posture between male and female of diploma students in UTHM.

Table 1 *Respondent's demographic data*

		Count	Column N%
Age	18	11	5.3%
	19	69	33.3%
	20	127	61.4%
Gender	Male	78	37.7%
	Female	129	62.3%
Year of study	Year 1	69	33.3%
	Year 2	138	66.7%
Course of study	DAK	16	7.7%
	DAT	54	26.1%
	DAA	38	18.4%
	DAM	11	5.3%
	DAE	28	13.5%
	DAG	11	5.3%
	DAU	49	23.7%

Table 1 shows that there are more female students than male students. A total of 129 students or 62.3%of female students completed the questionnaire whereas only 78 students or 37.7% of male students completed the questionnaire. According to **Table 1**, the majority of respondents 26.1% came from Information Technology courses, which are often known as DAT. Furthermore, Year 2 diploma students are more numerous than Year 1 diploma students. Compared to Year 1, when only 68 students or 33.3% of students completed the questionnaire, a total of 138 students or 66.7% of Year 2 students completed the questionnaire.

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Table 2 *Knowledge of body posture based on genders*

Statement		Gender			
		Male		Female	
		Count	Column N%	Count	Column N%
Important to know the effect of poor body posture.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	0	0.0%	0	0.0%
	Neutral	5	6.4%	9	7.0%
	Agree	31	39.7%	53	41.1%
	Strongly agree	42	53.8%	67	51.9%
Poor posture can cause discomfort by putting extra pressure and stress on particular bodily regions, such as the spine.	Strongly disagree	0	0.0%	1	0.8%
	Disagree	0	0.0%	0	0.0%
	Neutral	5	6.4%	5	3.9%
	Agree	22	28.2%	46	35.7%
	Strongly agree	51	65.4%	77	59.7%
Practicing a correct body position from a young age is important for people.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	0	0.0%	0	0.0%
	Neutral	8	10.3%	8	6.2%
	Agree	18	23.1%	31	24.0%
	Strongly agree	52	66.7%	90	69.8%
Exercise can help you have better posture.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	0	0.0%	1	0.8%
	Neutral	10	12.8%	6	4.7%
	Agree	21	26.9%	44	34.1%
	Strongly agree	47	60.3%	78	60.5%
Body posture can affect learning.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	1	1.3%	3	2.3%
	Neutral	17	21.8%	23	17.8%
	Agree	28	35.9%	54	41.9%
	Strongly agree	32	41.0%	49	38.0%
An improper sitting position can quickly cause exhaustion, back and neck pains, as well as a decrease in comfort and attention.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	0	0.0%	0	0.0%
	Neutral	9	11.5%	11	8.5%
	Agree	22	28.2%	43	33.3%
	Strongly agree	47	60.3%	75	58.1%
A standing desk is better than a sitting desk to prevent back, shoulder, and neck problems.	Strongly disagree	4	5.1%	4	3.1%
	Disagree	9	11.5%	5	3.9%
	Neutral	24	30.8%	39	30.2%
	Agree	13	16.7%	43	33.3%
	Strongly agree	28	35.9%	38	58.1%
Good posture can benefit students by improving specifically concentration and mood.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	2	2.6%	3	2.3%
	Neutral	7	9.0%	14	10.9%
	Agree	28	35.9%	53	41.1%
	Strongly agree	41	52.6%	59	45.7%
	Strongly disagree	0	0.0%	0	0.0%

People around also have trouble with their posture.	Disagree	1	1.3%	5	3.9%
	Neutral	17	21.8%	22	17.1%
	Agree	32	41.0%	56	43.4%
	Strongly agree	28	35.9%	46	35.7%
Heavy backpacks should be carried on both shoulders, not slung over one side.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	1	1.3%	1	0.8%
	Neutral	10	12.8%	10	7.8%
	Agree	22	28.2%	38	29.5%
	Strongly agree	45	57.7%	80	62.0%
Poor posture will affect your movement as you age.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	0	0.0%	2	1.6%
	Neutral	9	11.5%	9	7.0%
	Agree	22	28.5%	46	35.7%
	Strongly agree	47	60.3%	72	55.8%
Poorly designed classroom furniture can cause back pain, which can distract students and make it difficult to concentrate in class.	Strongly disagree	0	0.0%	0	0.0%
	Disagree	0	0.0%	0	0.0%
	Neutral	9	11.5%	14	10.9%
	Agree	23	29.5%	43	33.3%
	Strongly agree	46	59.0%	72	55.8%

Table 2 shows the percentage level of knowledge about body posture among diploma students from male and female. Twelve statements were given in the questionnaire to evaluate the respondent's understanding of body posture. Each statement is required to select either "Strongly Disagree", "Disagree", "Neutral", "Agree" or "Strongly Agree". According to Table 2, most diploma students agree that an improper sitting position can quickly cause exhaustion, back and neck pains as well as a decrease in comfort and attention. This is evident from the fact that 66.7% of male students and 69.8%of female student s selected the Strongly Agree response. These finding demonstrate that both genders are aware of the basic concepts of good body posture. However, based on the table percentage of female that "Strongly Agree" on most of the questions mentions is higher than male with percentage of 54.26%.

Table 3 *Attitude of body posture based on genders*

Statement		Gender			
		Male		Female	
		Count	Column N%	Count	Column N%
Correct body posture has the potential to increase self-confidence.	Strongly disagree	0	0.0%	2	1.6%
	Disagree	1	1.3%	0	0.0%
	Neutral	13	16.7%	19	14.7%
	Agree	26	33.3%	41	31.8%
	Strongly agree	38	48.7%	67	51.9%
Correct body posture is an attitude about life and essential for overall health and well-being.	Strongly disagree	1	1.3%	1	0.8%
	Disagree	0	0.0%	3	2.3%
	Neutral	17	21.8%	21	16.3%
	Agree	27	34.6%	56	43.4%
	Strongly agree	33	42.3%	48	37.2%
The way individuals position their own bodies,	Strongly disagree	1	1.3%	1	0.8%
	Disagree	1	1.3%	4	3.1%
	Neutral	15	19.2%	27	20.9%

reflecting their emotions, thoughts, or intentions.	Agree	24	30.8%	52	40.3%
	Strongly agree	37	47.4%	45	34.9%
Leaning forward while sitting to work does not support the curve of the lumbar spine	Strongly disagree	0	0.0%	0	0.0%
	Disagree	1	1.3%	4	3.1%
	Neutral	27	34.6%	44	34.1%
	Agree	23	29.5%	50	38.8%
	Strongly agree	27	34.6%	31	24.0%
Side sleeping will be able to give support to legs and spine aligned.	Strongly disagree	0	0.0%	2	1.6%
	Disagree	1	1.3%	8	6.2%
	Neutral	23	29.5%	41	31.8%
	Agree	24	30.8%	45	34.9%
	Strongly agree	30	38.5%	33	25.6%
Stomach sleeping (prone) has the potential to increase the risk of neck and back pain.	Strongly disagree	0	0.0%	2	1.6%
	Disagree	1	1.3%	6	4.7%
	Neutral	20	25.6%	37	28.7%
	Agree	20	25.6%	42	32.6%
	Strongly agree	37	47.4%	42	32.6%

Table 3 shows the differences in attitude levels among diploma students between male and female. Six statements were given in the questionnaire to compare the level of attitude between male and female among UTHM diploma students. Based on table 3, 48.7% of male and 51.9% of female strongly agree that correct body posture can increase self-confidence. Unfortunately, based on the overall questions mentioned in this section, male students has the higher percentage of attitude regarding of body posture which is 43.15% than female.

Table 4 *Practice of body posture based on genders*

Statement		Gender			
		Male		Female	
		Count	Column N%	Count	Column N%
Do you crossing legs when sitting?	Often	31	39.7%	67	51.9%
	Sometimes	36	46.2%	48	37.2%
	Rarely	11	14.1%	14	10.9%
Do you carry backpack on one shoulder?	Often	14	17.9%	40	31.0%
	Sometimes	43	55.1%	57	44.2%
	Rarely	21	26.9%	32	24.8%
Do you ever exercise to improve your body shape?	Often	16	20.5%	14	10.9%
	Sometimes	47	60.3%	68	52.7%
	Rarely	15	19.2%	47	36.4%
Do you have bad habits such as lifting heavy objects by yourself?	Often	18	23.1%	47	36.4%
	Sometimes	41	52.6%	54	41.9%
	Rarely	19	24.4%	28	21.7%
Have you ever using your gadget more than 5 hours?	Often	33	42.3%	92	71.3%
	Sometimes	34	43.6%	28	21.7%
	Rarely	11	14.1%	9	7.0%
Do you ever sleep on desk or couch for a long period?	Often	10	12.8%	27	20.9%
	Sometimes	37	47.4%	53	41.1%
	Rarely	31	39.7%	49	38.0%

Do you ever felt back pain when sitting on chair?	Often	24	30.8%	55	42.6%
	Sometimes	32	41.0%	55	42.6%
	Rarely	22	28.2%	19	14.7%
Do you ever wear shoes that have high soles?	Often	5	6.4%	20	15.5%
	Sometimes	27	34.6%	54	41.9%
	Rarely	46	59.0%	55	42.6%
Have you ever bent over for too long?	Often	11	14.1%	16	12.4%
	Sometimes	34	43.6%	68	52.7%
	Rarely	33	42.3%	45	34.9%

Table 4 shows the percentage level of practice regarding body posture among male and female diploma students. In this part, nine question were asked to know level of practice of body posture among students. Based on first question, which is regarding to frequency of student crossing legs during sitting shows that most of them often practicing crossing legs sitting with percentage of 39.7% male students and 51.9% female students. However, based on overall questions mentioned in this section, female students' percentage that frequently practicing bad body posture is higher than male with percentage of 43.15%.

Table 5 *Level of knowledge, awareness, attitudes and practices regarding body posture based on gender*

Variable	Gender	N	Mean	Std.Deviation	T-value	Level of Significant
Knowledge of Body Posture	male	78	4.3590	.53068	-.200	.842
	female	129	4.3734	.48559	-.195	.845
Attitude of Body Posture	male	78	4.1517	.66893	.1.543	.124
	female	129	4.0039	.66714	1.542	.125
Practice of Body Posture	male	78	2.0670	.30618	2.956	.003
	female	129	1.9311	.32873	3.008	.003

* Significant at level p <0.05

Table 5 shows the significant difference in level of knowledge, attitude and practice of body posture between male and female diploma students in UTHM. As for mean knowledge, it shows that the P value for knowledge section is 0.845 > 0.05, so there is no significant difference in level of knowledge by gender in UTHM. Next for mean attitude, P value that found is 0.125 which is more than 0.05 prove there is also no significant difference in level of attitude by gender among male and female students. Based on mean practice, P value that mentioned were 0.003 which less than 0.05 prove that there is significant difference exists in level of practice by gender among UTHM students.

Table 6 *Correlation between knowledge, attitude and practice level of body posture*

		Knowledge of Body Posture	Attitude of Body Posture	Practice of Body Posture
Knowledge of Body Posture	Pearson Correlation	1	.473**	-.132
	Sig. (2-tailed)		.000	.059
	N	207	207	207
Attitude of Body Posture	Pearson Correlation	.473**	1	.018
	Sig. (2-tailed)	.000		.801
	N	207	207	207
Practice of Body Posture	Pearson Correlation	-.132	.018	1

	Sig. (2-tailed)	.059	.801	
	N	207	207	207

**. Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows the significant correlation for the relation between knowledge and attitude of body posture with a p-value of 0.000 which is less than 0.05. However, the relation between knowledge and attitude of body posture has a moderate positive correlation, with the value is 0.473. Most of male and female diploma students have a high level of knowledge and practice of body posture. Correlation between knowledge and practice of body posture is not significant since p-value, which is 0.059 > 0.05 and have a very weak negative correlation with –0.132. Then, attitude and practice of body posture have a weak positive correlation and the correlation is not significant.

3. Conclusion

The survey demonstrated that diploma students in UTHM Pagoh have high knowledge and attitude regarding to body posture issue in daily life. The finding also proved that most of diploma student in UTHM have poor practices of good body posture which effect the body posture later on. Even though the result gained varies from expected result, it is believed that the period of distribution of survey significantly affect the result.

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Conflict of Interest

Author declares that there is no conflict of interests regarding the publication of paper.

Author Contribution

The authors confirm contribution to the paper as follows: ***study conception and design:*** *Aimun Aisyah Mohd Hafash, Nur Anis Sofia Adisiman, Muhammad Nazmi Ilham Abdul Rahman, Adnin Afifi Nawi;* ***data collection:*** *Aimun Aisyah Mohd Hafash, Nur Anis Sofia Adisiman, Muhammad Nazmi Ilham Abdul Rahman, Adnin Afifi Nawi;* ***analysis and interpretation of results:*** *Aimun Aisyah Mohd Hafash, Nur Anis Sofia Adisiman, Muhammad Nazmi Ilham Abdul Rahman, Adnin Afifi Nawi;* ***draft manuscript preparation:*** *Aimun Aisyah Mohd Hafash, Nur Anis Sofia Adisiman, Muhammad Nazmi Ilham Abdul Rahman, Adnin Afifi Nawi; All authors reviewed the results and approved the final version of the manuscript.*

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