Nutrition - Diet/Sleep/Activity Level

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BACKGROUND AND LITERATURE REVIEW

The purpose of my research paper is to assess how sleep affects your diet and activity level. I want to study how getting less than the recommended hours of sleep will affect a person's diet and activity levels. As the researcher, I want to study young adults from age 20 to 30 who regularly exercise. The data would be collected using two hand-out surveys and consist of questions based on the amount of sleep they received that night. The questions would ask about their meal choices that day, including fruits and vegetables, as well as the type of activity they performed that day. Activity levels will be rated based on their level of exertion and time of activity. The results of both surveys will be compared to assess how different the person's diet and activity levels are based on the amount of sleep received that night.

Sleep helps to recover the body and mind and is necessary for healthy functioning throughout the day. It has been researched that lack of sleep and obesity are related, and that those with adequate sleep are more likely to eat heathy and exercise regularly. It is also important to note that when we sleep, our body is metabolizing the food we ate and is actively getting our body ready to consume more nutrients.

A study was done on sleep patterns, diet quality, and energy balance and the results showed that not enough sleep is associated with an increase in overall calories that day, as well as choosing less healthy options. They also point out that lack of sleep can be a reason for more snacking and more meal consumed that day. Insufficient sleep can cause psychological distress as well as changes in appetite hormones. The study added in that certain foods can promote sleep, but more evidence needs to be done to further prove this.

Another study was done using a health self-tracking device. This study was done on college level students who used the self-tracking device to assess their diet, sleep and activity level for 90 consecutive days. The data was analyzed to assess overall health status and compare sleep and diet. The findings showed that by using the app, people were more conscious of what they were eating. This data showed that most college students do not get the recommended amount of sleep, have less meals, and snack often. They also noted that most were not aware of their overall health based on the amount of sleep received. The tracking helped motivate them to sleep more and eat healthier.

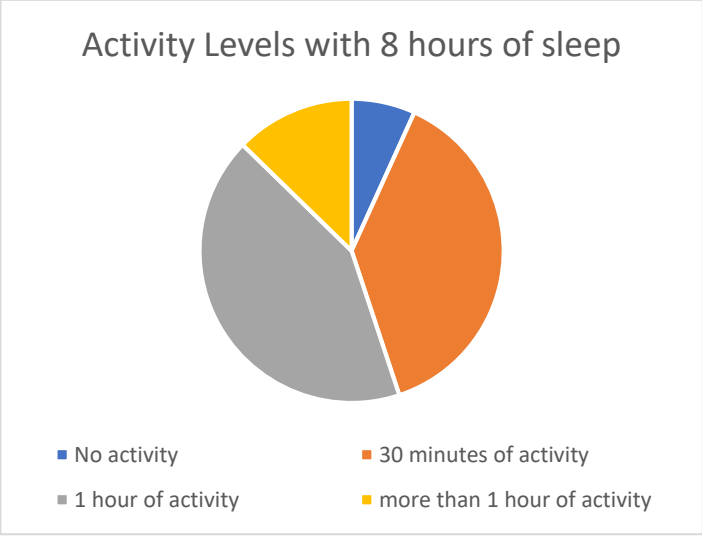
The last study took a different approach and stated that diet can actually promote sleep duration and the overall quality of sleep. The study confirmed that those who do not sleep a long time are more likely to consume foods that are full of energy, such as carbohydrates and fatty foods. However, those who get adequate sleep consume more vegetables and high protein foods. The study confirmed a link between our overall diet and amount of sleep. The data consisted of clinical trials in mostly healthy subjects.

All three of the studies confirmed that sleep and diet are directly correlated. While more data needs to be researched to develop a clear consensus of how much sleep is needed to promote healthy eating, we can assume that getting at least eight hours of sleep can improve your overall eating habits and activity level. The three studies all have facts in common, including the idea of eating more energy rich foods such as fats and carbohydrates with lack of sleep.

METHOD

The method will consist of using two surveys, both taken on two separate days. One survey will be taken after a night of eight hours of sleep and the other survey will be taken after a night of less than six hours of sleep. Adults from ages 20 to 30 years old who regularly exercise will be taking the surveys. The survey will directly assess how the amount of sleep effects their food choices and their exercise choices. We will then compare both surveys to see how diet and activity levels are impacted based on sleep levels. The surveys will be given at the end of the day, after the person's last meal and final activities. We will assess to see if the person eats nutrient rich food or higher calorie/low nutrient food based on the amount of sleep they have received. It will also take a look at how intense their exercise was and the amount of time spent exercising based on the amount of sleep from the night before.

RESULTS



The results confirmed that those with 8 hours of sleep participated in more activity. Those with less than 6 hours did no activity or 30 minutes, but only 4% participated in over an hour of activity that day.

RESULTS

Nutrition - Diet/Sleep/Activity Level (N2)

			Pre			Post		
Client	Gender	Age	Nutrition rate (1-5)	Sleep Habits (1-5)	Exercise Activity Level (1-5)	Nutrition rate (1-5)	Sleep Habits (1-5)	Exercise Activity Level (1-5)
1	F	20	1	2	3	2	4	4
2	F	24	2	2	2	2	3	3
3	F	30	3	3	2	3	4	3
4	F	35	4	3	5	4	3	5
5	F	44	5	1	5	5	2	5
6	F	48	3	4	4	4	4	4
7	F	51	1	4	3	2	5	4
8	F	54	3	5	2	4	5	3
9	F	60	1	4	2	3	4	2
10	F	67	4	2	2	4	3	3
11	F	74	2	5	2	3	5	3
12	F	71	3	5	1	3	5	2
13	F	31	2	3	3	3	4	3
14	F	23	5	4	1	5	4	2
15	F	42	4	1	4	4	3	4
16	M	21	2	2	1	2	3	2
17	M	27	5	1	3	5	3	4
18	M	25	1	3	4	2	2	4
19	M	32	4	2	1	4	3	2
20	M	36	1	2	2	2	3	3
21	M	40	1	5	3	2	5	3
22	M	45	4	4	2	4	4	3
23	M	53	2	5	1	2	5	2
24	M	56	5	1	3	5	2	4
25	M	62	5	2	2	5	3	2
26	M	70	3	4	2	3	3	3
27	M	73	3	3	3	3	3	4
28	M	30	1	4	4	2	4	4
29	M	32	1	5	5	3	5	5
30	M	41	3	2	5	3	3	5
Overall	Mean	43.9	2.8	3.1	2.73	3.27	3.63	3.33
	SD	16.88	1.45	1.37	1.28	1.45	1.37	1.28
	p value		0.00	0.00	0.00			
Female	Mean		2.87	3.20	2.73	3.40	3.87	3.33
	SD		1.36	1.37	1.28	0.99	1.36	0.98
	p value		0.01	0.00	0.00			
Male	Mean		2.73	3.00	2.73	3.13	3.40	3.33
	SD		1.58	1.41	1.33	1.19	0.99	1.05
	p value		0.03	0.08	0.00			

DISCUSSION

Based on the results, we can confirm that those with at least eight hours of sleep will have a better diet that day, as well as participate in more activity. The surveys will less than six hours of sleep showed that most people participated in less than 30 min of activity. Getting an adequate amount of sleep has shown in the surveys that people eat more vegetables and nutrient rich foods. Those with less than six hours admitted to eating more meals, including snacks, and not focusing on nutrient rich foods. The surveys with less than six hours confirmed that the lack of sleep also caused the lack of motivation to cook foods and plan workouts for that day. Some admitted to eating fast food on those days as well.

In conclusion, based on the surveys, we can assume that sleep directly impacts the diet and activity levels of adults. More sleep will result in more exercise and a better diet, with normal meals and snacks. Less sleep will result in less exercise, an unhealthy diet, and more meals and snacks.

REFERENCES

Analysis of Health Consumers' Behavior Using Self-Tracker for Activity, Sleep, and Diet. (n.d.). Retrieved from https://www.liebertpub.com/doi/abs/10.1089/tmj.2013.0282

Diet promotes sleep duration and quality. (2012, April 25). Retrieved from https://www.sciencedirect.com/science/article/pii/S0271531712000632

Sleep patterns, diet quality and energy balance. (2013, September 17). Retrieved from https://www.sciencedirect.com/science/article/abs/pii/S0031938413002862