

Examination of Quality of Life and Physical Activity Levels of Individuals Having Massages in Thermal Hotels

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Abstract: With this study, the effects of massage were examined on the life quality. Physical function, pain and social function values of men who had massage were found to be significantly higher than women who had massage ($p < 0,05$). Among the people who had massage, physical function, pain, general health, social function values in one week of light physical activity; pain and general health, mental health and vitality in moderate physical activity; physical function, pain, physical role, general health, social function values in vigorous physical activity of participants who had had physical activity for 5 and 7 days were found to be higher than the participants who had exercised for 1 and 2-4 days ($p < 0,05$). Preferring to have massage may stem from health, social and physical reasons. It is identified that general health, pain, physical function, physical role, mental health and vitality values and social function values of individuals who do exercise for 5 and 7 days in a week get more significance. It is observed in our study that, there are significant relations between reasons for preferring to have massage and exercise frequency and some values of quality of life.

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1. Introduction

Complementary and alternative medicine (CAM) approaches to address health issues has become increasingly popular in recent years (Pan et al., 2013, Moraska et al., 2010, Tindle et al., 2005). Massage is considered to be a complementary and alternative medicinal (CAM) therapy (Revuelta-Iniesta et al., 2014, Genc et al., 2009, Chang et al., 2012). While reasons for seeking massage therapy are diverse, visits are frequently related to stress reduction. Popularized again as part of the alternative medicine movement, massage therapy has recently received reducing pain, increasing alertness, diminishing depression, and enhancing immune function (Peddicord, 1991). Massage therapy is one of the oldest therapeutic interventions known to mankind. Massage has also had a long history of being widely used to improve health in countries such as China, India, and Egypt (Ernst, 2009, Coelho et al., 2008, Aourell et al., 2005, Field et al., 2007).

It can be defined as a method of manipulating the soft tissue of whole body areas using pressure and traction (Buttagat et al., 2011). Many variations of the theme exist and most cultures have developed their own massage techniques, e.g. shiatsu, Indian head massage, reflexology. Massage brings about a range of psychological and physiological changes including improvements in blood and lymph flow, reduction in muscle tension, increase in pain threshold, improvement of mood, reduction of blood pressure and

relaxation of the mind (Ejindu, 2007, Field et al., 2007, Buttagat et al., 2012). It is also frequently used for a range of symptoms including anxiety and stress, back pain and other musculoskeletal conditions (Sherman et al., 2009). Massage therapies have been reported to produce beneficial physiological effects, such as vasodilation, an increase in skin temperature, and body relaxation (Haun et al., 2009). The underlying mechanisms are still unknown, but it has been hypothesized that a reduction in lactic acid build-up in muscles, improved lymphatic and venous circulation, and stimulation of the healing of connective tissues may be involved. Consequently, massage therapy is currently used in palliative care for the relief of anxiety and pain (Noto et al., 2010). It is an ancient form of treatment that is gaining popularity as part of the complementary and alternative medical therapy movement today. Massage has also been proposed to promote psychosocial relaxation and reduce stress.

The aim of this study is to investigate socio-demographic characteristics, quality of life and physical activity levels of people preferring to have massage and the effects of massage on people's quality of life and permanence of health (Karaca et al., 2000).

2. Methods

Data were collected via questionnaire in this descriptive research. The questionnaire consists of two parts. In the first part, questions related to assessment of some socio-demographic characteristics and

physical activity levels take place. Physical Activity Assessment Questionnaire This questionnaire which was developed by Karaca et al. assesses physical activity habits. Regular activities which are done at least once in a week and how long it takes to do these activities are questioned. The questionnaire includes descriptive information (age, height, weight), activities related to work, school activities, transportation activities, climbing up stairs, house activities, activities done as hobbies and sport activities parts. Reliability coefficient of value obtained from the total of seven parts of the questionnaire was calculated as 0.68 by Karaca et al. The validity of the questionnaire was assessed by the same researcher via activity diary and the value of correlation between them was identified as 0.72.

Identification of Activity Level The activities were grouped into three which are light, moderate and vigorous exercise (Karaca, 2000). In the second part, there is "quality of life measurement and assessment scale", developed and put into service by Ware and Sherbourne et al. in order to assess SF-36 quality of life. This scale was first used by Koçyigit et al. in 1999 having done its validity studies. SF-36 examined 8 dimensions of health such as physical function, role limitations, social function, mental health, energy and perceiving health as pain in 36 items. The questions are Likert type and each one of the scales given points between 0 and 100. Scale assesses that quality of life gets better as points go up.

This study was carried out with 173 participants who preferred thermal hotels and demanded massage and voluntarily accepted to take part in the study.

Data were analysed via SPSS 20 for Windows and socio-demographic characteristics and obtained from question in the SF-36 quality of life measurement

and assessment scale were analysed via descriptive statistics (percentage distribution, means and standard deviation). Besides, independent samples t test and one way ANOVA were used in comparing some individual characteristics. In one way ANOVA test, Tukey test was used when variances were homogeneous and Tamhane values were checked when variances were not homogenous in order to identify difference among groups. Statistical differences were indicated with different letters (a,b,c) and same letters were used (a,a) when a difference was not present.

3. Results

Socio-demographic characteristics of participants were presented as following. 88 women (50.9 %) and 85 men (49.1 %), 173 people in total, participated in the study and 62 of them (35.8 %) were single, 98 (56.6 %) were married and 13 (7.5 %) were divorced. 18 people (10.4 %) were primary school graduates, 53 (30.6 %) were high school graduates and 102 were university graduates. Of the participants, 4.6 % had an income of 1000 Turkish Liras (TL), 37.6 % had an income of 1005-3000 TL and 57.8 % had an income of over 3000 TL. 116 participants (67.1 %) had their own cars and 56 participants (32.4 %) didn't have a car.

In Table 1, physical and mental health score by gender (PCS) is presented. In the physical and mental health score of participants, there is a significant difference between physical function, pain and social function average values. While men have a physical function average value of 24.92 ± 5.09 , this value is 22.95 ± 5.76 for women; men's value of pain is 8.15 ± 2.11 and social function is 7.69 ± 2.10 ; however, these values are 7.33 ± 2.12 , 6.75 ± 1.97 for women respectively.

Table 1. Physical and Mental Health Score by Gender (PCS)

	Gender	n	$\bar{x} \pm Sd$	df	t	P
Physical Function	Female	88	22,95±5,76	171	-2,370	0,019*
	Male	85	24,92±5,09			
Pain	Female	88	7,33±2,12	171	-2,55	0,011*
	Male	85	8,15±2,11			
Physical Role	Female	88	6,63±1,60	171	-1,518	0,131
	Male	85	6,98±1,43			
General Health	Female	88	17,57±3,93	171	-1,65	0,100
	Male	85	18,53±3,70			
Mental Health and Vitality	Female	88	32,52±3,60	171	0,296	0,768
	Male	85	32,35±3,94			
Social Function	Female	88	6,75±1,97	171	-3,045	0,003*
	Male	85	7,69±2,10			
Emotional Role Limitation	Female	88	4,73±1,31	171	-1,482	0,140
	Male	85	5,01±1,21			

Among physical and mental health scores, a significant difference is present between physical function, pain and social function average values. Men's values show statistically significant difference compared to women's ($p < 0.05$).

In Table 2, a comparison of number of days on which physical activities are done in the last week and state of health is given. Participants who did physical activities for seven days showed significant differences among the values of physical function, pain, general health and social function ($p < 0.05$, $p < 0.01$).

Table 2. Comparison of Number of Days on Which Physical Activities Are Done in the Last Week and State of Health

	1 Day of Exercise		2-4 Days of Exercise		5-7 Days of Exercises		f	p
	n	$\bar{x} \pm Sd$	n	$\bar{x} \pm Sd$	n	$\bar{x} \pm Sd$		
Physical Function	35	20,89±4,86 ^a	95	24,07±5,67 ^b	43	26,05±4,59 ^b	9,345	0,00**
Pain	35	6,86±2,03 ^a	95	7,52±2,05 ^a	43	8,93±1,98 ^b	11,244	0,00**
Physical Role	35	6,49±1,54	95	6,72±1,57	43	7,23±1,34	2,655	0,07
General Health	35	16,37±3,56 ^a	95	17,81±3,71 ^a	43	19,91±3,63 ^b	9,397	0,00**
Social Function	35	6,51±1,96 ^a	95	7,03±1,97 ^a	43	8,19±2,13 ^b	7,526	0,001**
Emotional Role Limitation	35	4,89±1,231	95	4,71±1,20	43	5,21±1,26	2,386	0,095
Mental Health and Vitality	35	31,91±3,43	95	32,21±3,73	43	33,37±4,024	1,852	0,160

$P^{**} < 0.01$, $p^{*} < 0.05$ a,b,c : Different letters indicate statistical difference.

There is a statistically significant difference between the number of days on which physical activities are done in a week and state of health and between physical function, pain, general health, social function values ($p < 0.05$, $p < 0.01$).

In Table 3, a comparison of states of health of individuals who had done vigorous physical activities

in the last week is presented. Physical function, pain, physical role, general health and social function values of participants who had done vigorous physical activity showed statistically significant difference ($p < 0.05$, $p < 0.01$).

Table 3. Comparison of Number of Days on Which Vigorous Physical Activities Are Done in the Last Week and State of Health

	1 Day of Exercise		2-4 Days of Exercise		5-7 Days of Exercises		f	P
	n	$\bar{x} \pm Sd$	n	$\bar{x} \pm Sd$	n	$\bar{x} \pm Sd$		
Physical Function	107	22,71±5,75 ^a	49	25,63±4,236 ^b	17	26,59±5,269 ^b	7,434	0,001**
Pain	107	7,24±2,12 ^a	49	8,06±1,930 ^a	17	9,88±1,317 ^b	13,563	0,000**
Physical Role	107	6,48±1,65 ^a	49	7,16±1,247 ^b	17	7,76±0,562 ^c	7,723	0,001**
General Health	107	17,07±3,59 ^a	49	19,14±3,731 ^b	17	21±3,428 ^b	11,852	0,000**
Mental Health and Vitality	107	32,12±3,47	49	32,73±4,066	17	33,59±4,542	1,327	0,268
Social Function	107	6,80±1,94 ^a	49	7,51±2,142 ^a	17	8,94±1,886 ^b	9,181	0,000**
Emotional Role Limitation	107	4,73±1,30	49	5,06±1,180	17	5,18±1,237	1,733	0,180

$P^{**} < 0.01$, $p^{*} < 0.05$ a,b,c : Different letters indicate statistical difference.

There is a statistically significant difference between the number of days on which vigorous physical activities are done in a week and state of health and between physical function, pain, physical role, general health, social function values ($p < 0.05$, $p < 0.01$).

In Table 4, a comparison of states of health of individuals who had done moderate physical activities in the last week is given. There is a statistically significant differences between participants who had done moderate physical activities and state of health, and among pain, general health, mental health and vitality values ($p < 0.05$, $p < 0.01$).

Table 4. Comparison of Number of Days on Which Moderate Physical Activities Are Done in the Last Week and State of Health

	1 Day of Exercise		2-4 Days of Exercise		5-7 Days of Exercises		f	P
	n	$\bar{X} \pm Sd$	n	$\bar{X} \pm Sd$	n	$\bar{X} \pm Sd$		
Physical Function	128	23,36±5,78	39	25,33±4,269	6	26,67±5,04	2,736	0,068
Pain	128	7,53±2,12 ^a	39	8,03 ±2,146 ^a	6	10,17±0,98 ^b	4,985	0,008*
Physical Role	128	6,68±1,59	39	7±1,338	6	8±0,00	2,628	0,075
General Health	128	17,46±3,86 ^a	39	19,23±3,183 ^b	6	22,67±2,42 ^c	8,347	0,000**
Social Function	128	7,11±2,14	39	7,33±1,910	6	8,67±1,63	1,692	0,187
Emotional Role Limitation	128	4,77±1,31	39	5,13±1,080	6	5,17±1,32	1,352	0,262
Mental Health and Vitality	128	31,87±3,69 ^a	39	33,87±3,629 ^b	6	35,33±2,50 ^{ab}	6,452	0,002*

P**<0.01 p*<0.05 a,b,c : Different letters indicate statistical difference.

There is a statistically significant difference between the number of days on which moderate physical activities are done in a week and state of health and between pain, general health, mental health and vitality values (p<0.05, p<0.01).

Table 5 provides a comparison of number of days on which light physical activities (walking for ten

minutes in a day) are done in the last week and state of health. There is a statistically significant difference between light physical activity and state of health, and among physical function, general health, social function values (p<0.05, p<0.01).

Table 5. Comparison of Number of Days on Which Light Physical Activities (walking for ten mins in a day) are done in the Last Week and State of Health

	1 Day of Exercise		2-4 Days of Exercise		5-7 Days of Exercise		f	P
	n	$\bar{X} \pm Sd$	n	$\bar{X} \pm Sd$	n	$\bar{X} \pm Sd$		
Physical Function	47	22,98 ±5,6447 ^a	74	23,08 ± 5,755 ^a	52	25,96 ±4,524 ^b	5,354	0,006*
Pain	47	7,06 ±1,983 ^a	74	7,35 ± 1,961 ^a	52	8,88 ± 2,139 ^b	12,327	0,000**
Physical Role	47	6,74 ± 1,437	74	6,66 ± 1,633	52	7,04 ± 1,455	0,964	0,384
General Health	47	17,17 ±3,726 ^a	74	17,34 ± 3,713 ^a	52	19,83 ± 3,574 ^b	8,8112	0,000**
Social Function	47	6,60±1,952 ^a	74	6,97±1,937 ^a	52	8,12±2,148 ^b	8,010	0,000**
Emotional Role Limitation	47	4,91±1,139	74	4,70±1,311	52	5,06±1,305	1,249	0,289
Mental Health and Vitality	47	31,96±3,064	74	32,18±3,858	52	33,25±4,134	1,786	0,171

P**<0.01, p*<0.05 a,b,c : Different letters indicate statistical difference.

There is a statistically significant difference between the number of days on which light physical activities are done in a week and state of health and between physical function, pain, general health, social function values (p<0.05, p<0.01).

4. Discussions

Massage is commonly applied for permanence of health and also to reduce tiredness and tension. This research aiming to investigate reasons for preferring massage which is also considered among the alternative treatments and its effects on individuals' quality of life was carried out with the participation of 173 individuals. In some of the studies on this issue, it is seen that massage is generally applied for medical purposes. With a recent legislation in Turkey, it has been banned for hotels without treatment permit to apply medical massage. In this study, questionnaires measuring quality of life, physical activity levels and socio-demographic characteristics of people who generally prefer massage to reduce tiredness and stress

were implemented. It was identified that of the participants that voluntarily answered the questions in the questionnaire, 10.4 % are primary school graduates, 30.6 % are high school graduates and the remaining 49 % are university graduates. Similarly, most of the participants, 57.8 %, have an income of 3000 or over Turkish Liras and 67.1 % have their own cars. In the study, sub groups of Quality of Life Scale are compared to three different physical activity levels. A total score between 0-100 is used for quality of life scale in similar studies in the literature and the value is considered significant as it approximates to 100. Yet, any studies that separately compared sub groups were not found. It is a known fact that there happens a weakening in body functions in parallel with increasing age. This kind of change which is identified in all living beings is a natural and physiological phenomenon. Nevertheless, this doesn't often display a rapidity tendency in parallel with chronological age. This is overtly seen in the physical capacity differences observed among the individuals at the same age. This

emphasizes that the rapidity of functional changes occurring with the increasing age is controllable (Arabacı and Cankaya, 2007). Physical activity habits vary by cultural structure, socio-economic level, individual differences and state of health. The data show that average physical function value is 24.92 for men and 22.95 for women and this difference is statistically significant ($p < 0.05$). In the same vein, some studies in the literature confirm that men in different age groups have more vigorous activity habits compared to women (Cauley et al., 1991, Hallal et al., 2003, Barros and Nahas, 2001). It has longstandingly been accepted that regular physical activity prevents illnesses or retards its symptoms (Aslan et al., 2007). To be able to see positive effects of physical activity in adulthood and senility stages, physical activity needs to be done regularly beginning from generally childhood and adolescence stages. The society had better be encouraging and incentive on gaining the habit of more active and regular exercise (Dumith et al., 2010). It is identified in the study that general health average of men (18.53 ± 3.70) is higher than general health average of women (17.57 ± 3.93). Social function value of men is 7.69 and social function value of women is 6.75, and this difference is statistically significant ($p < 0.05$). Aslan et al. state in their study with the university students that physical activity habits vary by gender. Saffer et al. emphasize in their study that obesity is more common in countryside due to inadequacy of physical activity habits (Saffer et al., 2011). It is identified in this study too that most of the participants who preferred physical activity and massage have a high level of education and men prefer massage more compared to women. Participants' physical activities are assessed in Table 2 based on their own statements and it is identified that physical function of participants who do exercise for one day (20.89) is lower than participants who do exercise for 2-4 days (24.07) and for 5-7 days (26.05). Average pain values of participants who do exercise for one day (6.86) are statistically lower than participants who do exercise for 2-4 days (7.52) and for 5-7 days (8.93). General health and social function values of participants who do exercise for 5-7 days (19.91, 8.19) are higher than participants who do exercise for 2-4 days (17.81, 7.03) and for a day (16.37, 6.51). According to American College of Sports Medicine (ACSM) adults need to do moderate level activities for 30 minutes every day of the week or at least 3-4 days a week (Savcı et al., 2006). Burke et al. investigated to what extent students correspond to ACSM's suggestion to do moderate level activity for at least 30 minutes at least five days a week and found out that women's ratio (48.2 %) is higher than men's ((31.1 %). In the comparison of participants who did vigorous physical exercise in a week, it is found out that physical

function of participants who do exercise for one day (22.71) is lower than participants who do exercise for 2-4 days (25.63) and for 5-7 days (26.59). Average value of pain of participants who do exercise for 1 day (7.24) displays a statistically significant difference from values of participants who do exercise for 2-4 days (8.06) and for 5-7 days (9.88). With respect to physical role values, each exercise group differs from each other. General health status of participants who do exercise for one day (17.07) is lower than participants who do exercise for 2-4 days (19.14) and for 5-7 days (21.00). Social function values of participants who do exercise for 1 day (6.80) and for 2-4 days (7.51) are statistically lower than participants who do exercise for 5-7 days (8.94). In a study carried out with Swedish university students, a difference in the male and female students' habits of doing regular exercise was not identified (Von Bothmer et al., 2005). However, there are studies in the literature that suggest that males in different age groups have habits of doing more vigorous activities compared to females (Shi et al., 2006, Sidney et al., 1991, Talbot et al., 2000).

As presented in Table 4, with respect to pain perception of participants who stated to do moderate level physical activity, average values of participants who do exercise for one day (7.53) are statistically lower than participants who do exercise for 2-4 days (8.03) and for 5-7 days (10.17). General health averages of three different exercise groups also differ from each other. Mental health and vitality values of participants who do exercise for 2-4 days (33.87) are higher than participants who do exercise for 1 day (31.87). Aslan et al. identified in their studies that ratio of doing vigorous activities is higher in males and ratio of doing moderate activity is higher in females.

As given in Table 4, with respect to light physical activity, physical function values of participants who do exercise for 1 day (22.98) are lower than participants who do exercise for 2-4 days (23.08) and for 5-7 days (25.96). It is identified that average pain values of participants who do exercise for 1 day (7.06) are statistically lower than participants who do exercise for 2-4 days (7.35) and for 5-7 days (8.88). It is also determined that general health values of participants who do exercise for 1 day (17.17) are statistically lower than participants who do exercise for 2-4 days (17.34) and for 5-7 days (19.83). With respect to social function, values of participants who do exercise for 1 day (6.60) and for 2-4 days (6.97) are statistically lower than participants who do exercise for 5-7 days (8.12).

In the article by Kruk, it is stated that light physical activities such as farm duties, shopping and walking may affect females' quality of life and health positively. Savcı et al. measured university students' physical activity levels and reported that about 15 % of students were not physically active, physical activity

level of 68 % was low and only 18 % of students did sufficient level of physical activity. The results of this study reveal that physical activity levels of male students are significantly higher than female students' ($p < 0.05$). Besides, it is identified in the study that there is a positive relation between physical activity level and quality of life, and males' lives are more active than females'.

Conclusions

With the advancing technology, people have been obliged to adopt a tense, problematic and slow lifestyle which is also under social and psychological pressure. Therefore, alternative methods like physical activity and massage have to be a part of people's lives. Besides, it is stated in many studies that alternative methods may contribute positively to health care costs owing to their contribution to recovery process of patients undergoing medical treatment (Netchanok et al., 2012, Wyatt et al., 2010). It is identified in the study that physical activity participation ratios of people having massages are high and their socialization and health status are good. However, it is considered that it would be better to prepare exercise programs appropriate for each person and resort to only experts in the application of massage. We are of the opinion that in order to identify physical activity habits of Turkish society, further studies need to be done with people of different age groups and socio-economic levels.

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