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ORIGINAL PAPER

The Effect of Therapeutic Touch on the Comfort and Anxiety of Nursing Home Residents

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Abstract

Nurses are increasingly using energy therapies such as therapeutic touch (TT) in many countries. This research aimed at finding out the effects of TT on comfort and anxiety of nursing home residents. This research is a quasi-experimental randomized control study which was conducted to investigate the impact of TT on the comfort and anxiety of older people living in a nursing home in İzmir, Turkey, between August 2015 and 2016. The sample of the study was formed from 60 older people who fitted the selection criteria, 30 in the experimental group and 30 in the control group. Data were collected using a General Comfort Questionnaire (GCQ) and a Situational Anxiety Inventory (STAI). A statistically significant difference was found between the measurements of the TT and control groups. According to the results, TT reduces anxiety and increases the comfort level of older people ($p < 0.05$). Considering the positive results of TT on comfort levels and anxiety, it can be recommended as an independent nursing practice.

Keywords Therapeutic touch · Complementary nursing care · Comfort · Anxiety

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Introduction

The World Health Organization (WHO), in monitoring the increasing population of older people in the world, has reported that by 2025, 13% of the population of the European region including Turkey will consist of older people, and this figure will rise to 15% in the next 30 years (Turkish Statistical Institute 2017).

The number of people living in older people's homes is also increasing, and these people form a group which is at risk from the point of view of mental health (Dhar 2001). The literature reports that people living in older people's homes form a distinct group with regard to anxiety research (Hagerty and Wiliams 1999; Ryden et al. 2000; Stanley and Beck 2000) and it has been reported in many studies throughout the world that the frequency of anxiety in people living in older people's homes is much greater than in the general aged population (Bagley et al. 2000).

Comfort or relaxation, or providing comfort within the model of basic human needs is one of the basic aims of health care professionals, but at the same time, the comfort of older people living in older people's homes can be affected, and their anxiety levels raised (Hagerty and Wiliams 1999; Ryden et al. 2000).

Many chronic illnesses resulting from old age and related functional problems make rehabilitation necessary (Fessman and Lester 2000). Many factors are effective in raising the life quality of older people. One of these factors is feeling comfortable, and in fact the search and desire for comfort continues from birth. Providing an individual with comfort is a current and important concept, and is thought of as an essential cornerstone of holistic nursing care. It is a desired result or aim of nursing care today.

When nurses provide care today, they deal with people using holistic approaches within the interaction of energy and the environment. Therapeutic touch (TT) is a holistic method in which universal energy is used for a definite purpose and with compassion to support people's health (Krieger 1993; Kunz and Karagulla 1989; May 2001; Whelan and Wishnia 2003). In this regard, a need was felt for research into the idea that therapeutic touch applied in an older people's home could be effective in providing comfort for older people and that it could reduce their anxiety.

Therapeutic Touch

Since the time of Florence Nightingale, energy therapies have had a place in nursing practice. Modern nursing theoreticians such as Martha Rogers and Jean Watson have stated that in human energy fields, interaction with the environment is important, and this should have a place in nursing practice (Miles 2003; Vitale 2007; Vitale and O'Connor 2006).

From the point of view of nursing, the use of energy is nothing new. It has a 50-year history with the use of this concept in nursing by Martha Rogers. According to Rogers' theory, all matter is energy, and is joined together by energy pathways. Rogers said that the human body had energy which was continuously in a state of interaction with the environment, and that humans should always be seen as a whole with their environment

(Zolfaghari 2012; Aghabati et al. 2010; Pocotte and Salvador 2008; Vitale 2007). In nursing care, she began to practice holistic approaches in which humans were in energy interaction with their environment, and the use of energy therapy became widespread (Whelan and Wishnia 2003).

One energy therapy, TT, is a holistic method influenced by Rogers' theory and developed in the 1970s by Dolores Krieger and Dora Kunz, working at New York University. Krieger and Kunz taught the energy characteristics of this method, which is performed by touching with the hands, at Masters level to nurses at New York University (Vitale 2007; Whelan and Wishnia 2003). TT is defined as an efficacy-proven energy therapy that focuses on the extracorporeal electromagnetic fields and intracorporeal energy fields, contributes individuals to keep their balance and regain their health, uses universal energy with a specific intention. An examination of the literature shows that studies have been conducted on TT in older people's care homes, burns units, rehabilitation units, hospices, psychiatric clinics, childbirth and gynecology clinics, operating theatres and interventional angiography units (Aghabati et al. 2010; Vitale and O'Connor 2006).

Although no specific studies were found in the literature examining the direct effect of therapeutic touch on comfort, it has been reported that other integrative nursing applications had a positive effect on the comfort of individuals. Unlike the majority of studies on TT, our study is the first to research the effect of TT on the comfort of older people living in an older people's home, and so it is thought that it will contribute specific evidence to the literature (Jhaveri et al. 2008; Keller and Bzdek 1986; Lın and Taylor 1998; Olson et al. 1997). The concept of comfort is a part of nursing care quality. The first person to emphasize the need for comfort and its importance was the founder of nursing, Florence Nightingale. From that time until today, the important concept of comfort has been one of the basic components of nursing care. Today also, it is the aim and quality indicator of nursing care. Recovery is faster in patients who are comfortable and trouble-free; comfort eases coping with stress, and speeds rehabilitation (Kolcaba 1994, 2003). Comfort is a variable which affects the internal and external environments. A nurse will take account of these things and create a comforting, supportive and protective environment which aids recovery (Malinowoski and Stamler 2002; McEven and Wills 2006; McEwen 2002).

Nurses can use TT to reduce emotions which have a strong effect on patients such as anxiety, fear and loss of control. A nurse's use of interest in an individual and supportive friendliness and sincerity and level of touch is a more humane approach which will further strengthen the patient-nurse relationship. Nurses can use touch to make patients feel nonverbal communication such as trust, sincerity, respect, support, approval, and the readiness to help, and in practice most nurses make use of touch contact (Wilkinson and Simpson 2002; Moroles 1994 Yucel 2011).

Method

Design, Setting and Samples

This research was conducted as a quasi-experimental randomized controlled trial between August 2015 and August 2016 in Zubeyde Hanım Nursing Home, in İzmir, Turkey. This research aimed at finding out the effects of TT on comfort and anxiety of nursing home residents. The study sample consisted of 60 older people. Power analysis was performed by means of the G-Power statistical program using GKQ mean scores during TT therapy, and the sample size for each group was calculated as 25 in power analysis based on type 1 error 0.05 (80%) power. Sixty older people were included in the study, 30 in the application group and 30 in the control group (Fig. 1). The convenience sample included participants who met the following criteria: Being below 89 years of age, being able to speak Turkish, having no hearing problems hindering communication, having normal cognitive functions (SMMT result normal), not being exposed to environmental factors which might affect the comfort of older people (three or more people living in one room, heat, light, noise), not having a history of an acute illness such as flu in the previous 3 days, not being diagnosed with Parkinson's, Alzheimer's, dementia or major depression, not using anxiolytic or antidepressant drugs, and agreeing to take part in the research.

Measures

The data were collected by the researcher using the Older People's Identification Form (OPIF), the State Anxiety Inventory (STAI) and the General Comfort Questionnaire (GCQ). The Standardized Mini Mental State Examination (SMMTE) was applied to the older people. TT was applied to the older people who had normal mental activity according to test results.

OPIF, consists of eight questions on the old person's descriptive information and their sociodemographic characteristics. The form was prepared by the researcher by examining similar studies with older people in older people's homes, and by scanning the relevant literature. It contained questions on the older people's age, gender, marital status, education level, whether they were known to have any illness, and the medications which they used regularly. Cognitive status was assessed by the SMMTE, which was developed by Folstein et al. 1975, and the Turkish version was validated by Gungen et al. 2002. Five main areas are evaluated: orientation, recording memory, attention and accountability, and recall and language. The highest score of SMMT is 30. Scores of 25 or above are considered to be normal cognitive functions. The validity and reliability of the SMMSE were studied, and Turkish version of SMMSE was reported (Gungen et al. 2002) to have sufficient reliability as a screening test (Kappa number 0.92).

Comfort levels were evaluated by the GCQ, which was developed by Kolcaba (1994) to identify the comfort-related needs of patients and assess nursing practices that are designed to provide and/or improve physical ease and well-being. The scale

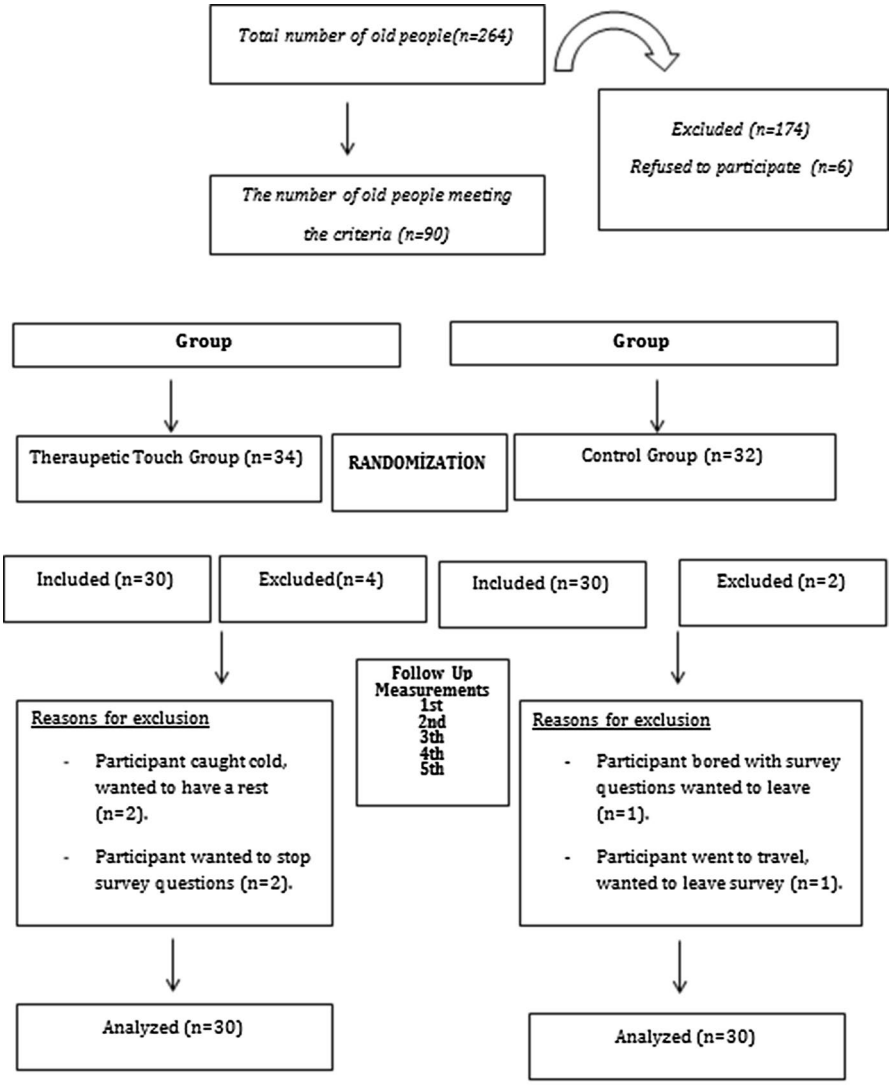

Figure 1. Diagram of the study plan.

Fig. 1 Diagram of the study plan

was created on the basis of a taxonomic structure that comprises three levels and four dimensions of the theoretical components of comfort. The GCQ was adapted to the Turkish context by Kuguoglu and Karabacak. With the original scale, the Cronbach's alpha coefficient was 0.88, but in Kuğuoğlu and Karabacak's study, this value was 0.85 (Kuguoglu and Karabacak 2008). In the present study, the Cronbach's alpha value of the GCQ was 0.82.

Anxiety was evaluated by the STAI is a self-evaluation questionnaire that includes short expressions. This scale was initially developed to inspect anxiety

in healthy adults and was then approved by subsequent trials for upper secondary school students and individuals with psychiatric and physical disorders. Spielberger et al. (1970) tested the reliability of the original form in three dimensions. The scale was adapted and standardized into Turkish by Oner and Le Compte in 1974–1977. The reliability of STAI was assessed by test–retest method and the Pearson Product-Moment Correlation Coefficient was 0.26 to 0.68. Internal consistency and test homogeneity were calculated by Kuder Richardson 20 formula, which is 0.83 to 0.87 for the STAI (Oner and Le Compte 1998). In the present study, the Cronbach's alpha value of the STAI was 0.88.

Application of Therapeutic Touch

With the TT group, therapeutic touch was applied for four successive days for periods of 20 min, which was accepted as the most suitable period, in order to examine the effect on comfort and anxiety. Therapeutic Touch Practice Group and Therapeutic Touch Control Group groups gathered with basic randomization. Age and gender took under control with basic randomization to prevent conscious or unconscious bias, during research.

With the control group, after approval for participation in the study had been obtained and at the same time each day, OPIF, GCQ, STAI were applied on the first day after randomization, and GCQ and STAI were applied on the second, third, fourth and fifth days. With the TT group, after information had been given on the procedures to be carried out and after approval had been obtained for participation in the study, the following were applied at the same time each day, OPIF, GCQ, STAI were applied on the first day after randomization, and GCQ and STAI were applied on the second, third, fourth and fifth days (Fig. 1).

Statistical Analysis

Analysis of the data obtained in the research was performed with the Statistical Package for Social Science (SPSS) 21.0. Numerical and percentage distributions and homogeneity test χ^2 were used to evaluate the descriptive details of the individuals in the TT and control groups. In order to evaluate differences between the total mean scores of the sub-dimensions of the GCQ and their levels by days of the individuals in the two groups, Friedman analysis was used, and to compare inter-group differences between total mean scores, they were examined with the Mann–Whitney U test. Friedman analysis was used to evaluate differences between the total mean STAI scores of the individuals in the TT and control groups by days, and to compare inter-group difference between total mean scores by measurement days, they were examined with the Mann–Whitney U test. In the evaluation of data, statistical significance was taken as $p < 0.05$ with a confidence interval of 95%.

Results

Descriptive Statistics

It was found that 50.0% of the individuals in the TT group were female, and 73.3% were single, while in the control group 50.0% were female and 83.3% were single. It was found that 46.7% of the individuals in the TT group were in the 60–74 age group and 53.3% were aged 75–89, and these figures were the same for the control group. As a result of χ^2 analysis performed to examine the homogeneity of the groups, the distribution of the individuals' gender, age distribution, education level, marital status and SMMT results was found to be similar in the two groups ($p > 0.05$) (Table 1).

The distribution of the individuals in the TT and control groups was examined with regard to the characteristic of illness using the χ^2 test, and it was found that distribution was similar in the two groups ($p > 0.05$) (Table 1). It was found that in the TT group, 50.0% of patients had hypertension, 10% had diabetes, 10% had chronic obstructive

Table 1 Findings for individual characteristics

Individual characteristics	Practise group		Control group		Total		χ^2* p
	n	%	*n*	%	*n*	%	
Age, mean(SD)							
60–74	14	50.0	14	50.0	28	46.7	1.00
75–89	16	50.0	16	50.0	32	53.3	
Gender							
Female	15	50.0	15	50.0	30	100	1.00
Male	15	50.0	15	50.0	30	100	
Marital status							
Single	2	6.7	6	20.0	8	13.3	0.35
Married	8	26.7	5	16.7	13	21.7	
Widow/divorced	20	66.6	19	63.3	39	65.0	
Education							
Illiterate	6	20.0	6	20.0	12	20.0	0.60
Literate	12	40.2	14	46.7	26	43.3	
Primary education	7	23.3	9	30.0	16	26.7	
High school	5	16.7	1	3.3	6	10.0	
Social insurance İnsured	30	50.0	30	50.0	60	100.0	1.00
Comorbidities							
Hypertension	15	50.0	22	73.3	37	61.7	0.06
Diabetes mellitus	3	10.0	4	13.3	7	11.7	0.68
COPD	3	10.0	9	30.0	12	20.0	0.34
Rheumatism	20	66.7	16	53.3	36	60.0	0.29
SMMSE score	28.20 ± 1.21		27.97 ± 1.06				0.34

pulmonary disease (COPD), and 66.7% had rheumatism. In the control group, 73.3% had hypertension, 13.3% had diabetes, 30% had COPD, and 53.3% had rheumatism (Table 1).

Results for Comfort

Examining the findings of the comfort sub-dimension of the TT and control groups, it was found that the results of the fifth day had the highest value and those of the first day had the lowest value. It was seen that comfort levels showed an increase starting from the first day (Table 2). Analysis was performed in order to determine the differences in the GCQ sub-dimension and its levels of the TT and control groups of residents of the older people's home who consented to take part in the research by measurement days. Difference at a statistically significant level was found in the physical comfort and psychospiritual comfort sub-dimensions except for relaxation and superiority in the first measurement, and in other measurements in all sub-dimensions and their levels ($p < 0.05$). According to this finding, it was seen that the measurement of the level of comfort dimensions of the TT group were higher (Table 2).

Examining the comfort level findings of the TT and control groups, it was found that the highest comfort level was the result for the fifth day except for the control group, and the result for the first day was the lowest. An increase was seen, starting from the first day. However, the highest level of comfort in the control group was on the fourth day (Table 2).

Results for Anxiety

Examining the difference in the STAI of the residents of the older people's home in the TT group by days, it was determined that there was a statistically significant difference between days ($X^2 = 97.171$; $p < 0.05$) (Table 3). Examining the difference in the STAI of the residents of the older people's home in the control group by repeated days, it was determined that there was a statistically significant difference between days ($X^2 = 52.504$; $p < 0.05$) (Table 3).

When the total mean STAI scores of the TT and control groups of residents of the older people's home who took part in the research were examined in order to determine the difference between them by days, it was found that apart from the first measurement there was a difference at a statistically significant level between the total mean STAI scores ($p < 0.05$). According to this finding, it was seen that the STAI measurements of the control group were higher (Table 3). The anxiety level measurements of the TT group were seen to be lower.

Discussion

Kolcaba reported that in the theory of comfort, physical comfort was related to an individual's responses to illness, and the commonest indicator was pain (Karabacak and Acaroglu 2011; Kolcaba 2003). There are studies investigating the effect

Table 2 Distribution of effects of therapeutic touch on the mean of total scores from GCQ subdimenions and levels by measurement days in individuals in the experimental and control groups

	Group	Measurement 1 M ± SD	Measurement 2 M ± SD	Measurement 3 M ± SD	Measurement 4 M ± SD	Measurement 5 M ± SD	χ^{2}*	*p*
Comfort dimension	Practise	2.60 ± 0.05	2.94 ± 0.04	3.19 ± 0.05	3.42 ± 0.04	3.61 ± 0.05	107.00	0.001
Physical comfort	Control	2.51 ± 0.05	2.80 ± 0.02	2.95 ± 0.04	3.00 ± 0.04	3.12 ± 0.04	57.85	0.001
Psychospiritual comfort	Practise	2.93 ± 0.04	3.23 ± 0.08	3.29 ± 0.03	3.57 ± 0.04	3.68 ± 0.03	92.57	0.001
	Control	2.78 ± 0.05	2.97 ± 0.02	3.12 ± 0.02	3.24 ± 0.04	3.28 ± 0.04	62.12	0.001
Environmental comfort	Practise	3.13 ± 0.04	3.35 ± 0.05	3.36 ± 0.03	3.62 ± 0.04	3.69 ± 0.03	64.11	0.001
	Control	2.97 ± 0.04	3.21 ± 0.03	3.29 ± 0.02	3.37 ± 0.05	3.33 ± 0.05	41.34	0.001
Sociocultural comfort	Practise	2.40 ± 0.04	2.61 ± 0.04	2.90 ± 0.06	3.16 ± 0.06	3.55 ± 0.05	101.08	0.001
	Control	2.24 ± 0.05	2.38 ± 0.02	2.56 ± 0.03	2.73 ± 0.05	2.74 ± 0.07	55.11	0.001
Comfort levels								
Relief	Practise	2.88 ± 0.04	3.18 ± 0.03	3.24 ± 0.03	3.46 ± 0.03	3.64 ± 0.07	89.26	0.001
	Control	2.70 ± 0.06	2.95 ± 0.02	3.10 ± 0.03	3.13 ± 0.04	3.27 ± 0.04	57.39	0.001
Relaxation	Practise	2.84 ± 0.06	3.05 ± 0.05	3.35 ± 0.05	3.53 ± 0.04	3.69 ± 0.04	93.95	0.001
	Control	2.63 ± 0.05	2.88 ± 0.05	3.02 ± 0.05	3.21 ± 0.05	3.15 ± 0.05	51.05	0.001
Superiority	Practise	2.67 ± 0.05	3.00 ± 0.07	3.07 ± 0.04	3.45 ± 0.04	3.58 ± 0.04	101.27	0.001
	Control	2.63 ± 0.05	2.82 ± 0.02	2.93 ± 0.02	3.06 ± 0.05	3.10 ± 0.05	48.04	0.001
GCQ total	Practise	2.74 ± 0.04	3.02 ± 0.05	3.15 ± 0.03	3.40 ± 0.03	3.54 ± 0.04	101.08	0.001
	Control	2.63 ± 0.04	2.82 ± 0.01	2.96 ± 0.02	3.06 ± 0.04	3.12 ± 0.05	55.11	0.001
*U***		296.500	173.500	196.000	134.500	111.500		
p		0.02	0.01	0.01	0.01	0.01		

GCQ general comfort questionnaire *Friedman test The comparison between groups of intro-groups difference **Mann–Whitney *U* test

Table 3 Distribution of effects of therapeutic touch on the mean of total scores from STAI by measurement days in individuals in the experimental and control groups

Group	Measurement 1 M ± SD	Measurement 2 M ± SD	Measurement 3 M ± SD	Measurement 4 M ± SD	Measurement 5 M ± SD	χ^2*	*p*
Practise	48.76 ± 1.56	44.00 ± 2.11	39.03 ± 1.76	34.50 ± 1.69	28.43 ± 0.91	97.171	0.001
Control	49.60 ± 1.57	48.36 ± 1.23	45.23 ± 1.36	44.96 ± 1.79	40.16 ± 1.65	52.504	0.001
*U***	430.500	232.500	249.500	180.500	103.500		
p	0.771	0.001	0.003	0.001	0.001		

*Friedman test **Mann–Whitney *U* test

of therapeutic touch in the literature relating to pain, the indicator of the sub-dimension of physical comfort. In a study by Lin and Taylor (1998) in which they investigated the effects of TT in reducing pain and anxiety in older people, it was shown that TT was effective in reducing pain and worry reported by old patients. In a study by Aghabati et al. (2010) investigating the effects of TT on pain and fatigue in cancer patients receiving chemotherapy, a reduction was observed in pain and fatigue levels following TT. (Aghabati et al. 2010). Examining the findings of the TT and control groups of the sub-dimension of physical comfort in the study, it was found that they were similar to the literature. Starting from the first day of our research, an increase in the level of physical comfort was seen in both groups, but more so in the application group.

Psychospiritual comfort, which is made up of cognitive, emotional and spiritual elements, is negatively affected by anxiety, confusion, receiving negative information, fear, a change in the state of health, a deterioration of body image, a reduction in self-respect, a disruption in the thought processes of a patient, inability to meet the need for prayer, and invasion of privacy (Kolcaba 2003). Examining the findings of the TT and control groups of the psychospiritual comfort sub-dimension, an increase is seen in both groups from the first day (Table 2). In a study by Bilgic and Acaroglu (2017) on the effect on patients receiving chemotherapy of music therapy, a complementary treatment, aimed at investigating its effects on patients' comfort levels, it was seen that patients of the application group had higher levels of physical, psychospiritual and sociocultural comfort and relief than the control group (Bilgic and Acaroglu 2017).

Examining the findings of the sub-dimension of environmental comfort in the TT and control groups, it was seen that there was an increase in both groups starting from the first day (Table 3). This finding suggests, in line with comfort theory, that the feeling of being safe was effective in patients who received therapeutic touch. Environmental comfort values also increased in the control group in repeated measurements, although not as much as in the TT group. In a study examining comfort and the quality of life in cancer patients, Kim and Kwo (2007) found that after environmental comfort, the lowest state of comfort of patients was psychospiritual comfort, and recommended that patients' comfort be increased by supplying psychospiritual support (Kim and Kwo 2007).

Sociocultral comfort is related to a patient's interpersonal relationships, family relationships, and social relationships. Disregard of cultural traditions, lack of social security, insecurity, poor quality care, and separation from the family are factors which have an adverse effect on sociocultural comfort (Kolcaba et al. 2004). In a study investigating the effects of therapeutic touch on behavioural findings of dementia by Woods et al. (2005), a reduction was seen in dementia findings in a group to which therapeutic touch was applied compared with a standard care group (Woods et al. 2005). In a study examining the effects of TT on patients with fibromyalgia syndrome, it was recommended as an effective method of increasing the quality of life (Barbara 2004). Similar to the literature on therapeutic touch, it was seen in our study that when the sub-dimension of sociocultural comfort of the application and control groups was examined, there was an increase in both groups, beginning from the first day (Table 2).Examining the findings of the TT and control groups of the comfort sub-dimension level of relief, it was seen that there was an increase in both groups, starting from the first day (Table 2). In a study by Whyte (2010), patients achieved a level of relief most by meeting their needs for physical and psychospiritual comfort (Whyte 2010).Examining the level of the sub-dimension of relaxation and superiority comfort of the TT and control groups, it is seen that there was an increase in both groups from the first day (Table 2). Because there is no effective form of communication in the way nurses touch old people in the course of their daily work, using a professional level of touch is a more humane and calming approach.

There are studies in the literature which examine the effect of therapeutic touch in anxiety. In a study investigating the effect of therapeutic touch on reducing pain and anxiety in older people, Lin and Taylor (1998) showed that TT was effective in reducing the pain and worry reported by old patients (Apóstolo and Kolcaba 2009; Blankfield et al. 2001). Zolfaghari (2012) examined the levels of anxiety of women during the fitting of cardiac catheters in order to determine the effect of therapeutic touch, and found that that it was more effective on the state of anxiety of the intervention group than on the placebo and control groups. In a study by Coakley and Duffy (2010) investigating the effects of TT on postoperative patients, cortisol levels were measured before and after TT. The evidence showed that cortisol levels had fallen (Coakley and Duffy 2010).

Conclusion

In accordance with the findings of this study, it was established that TT resulted in a reduction in anxiety in older people living in an older people's home, and increased their comfort levels. It can be suggested that therapeutic touch can be used as a complementary method of increasing comfort and reducing anxiety and that further studies of therapeutic touch should be performed with other groups, as the need for comparison is stated in the literature. Finally, because there is no effective form of communication in touching older people for the purpose of planned daily activities, the use of a professional level of touch will be more humane and calming. Nurses can reduce the occurrence of negative emotions providing strong therapeutic effects

in patients by using effective contact. It can be also recommended that awareness of nurses for therapeutic touch should be increased. The therapeutic touch and its effects should be included in the service training programs. TT should be incorporated in the curriculum of nursing faculties and colleges.

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Author Contributions Study design: All authors; Data management and analysis: FYA. Drafting and preparing the manuscript for publication: FYA and SCY. All authors approved the final manuscript.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Statement The ethics committee approved the study, and written consent was obtained from the nursing home administration (İzmir, Turkey; Approval Number: 773-2105). Informed consent was obtained from all participants before they were included in the study. Participation in the study was voluntary and elders could withdraw from the study at any time.

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