



# Massage therapy for home care patients using the health insurance system in Japan



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## ABSTRACT

**Objectives:** To clarify the status of home care massage services provided to patients. This will help in understanding how many patients utilize this service and the circumstances under which treatment is provided.

**Design:** A retrospective study.

**Setting:** Fifty-four acupuncture, moxibustion, and massage clinics. Participants were patients who had received home care massage for six months or more. We collected a total of 1587 responses from these 54 massage clinics; of these, 1415 responses (mean age = 79.1 ± 11.5 years) were valid (valid response rate 89.2%).

**Main outcome measures:** Actual patients and actual care services.

**Results:** The most common disorder observed among patients who utilized home care massage services was cerebrovascular disease (at approximately 36%), while the second most common were arthropathy-related disorders (16.3%). Although most patients received massage, approximately 30% received manual therapy (e.g. manual correction) and hot fomentation as part of thermotherapy. Notably, only around 10% of patients received massage alone; the majority received treatment in combination with range of motion and muscle-strengthening exercises.

**Conclusions:** This study helped to clarify the actual state of patients receiving home care massage and the details of the massage services provided. This study clearly showed the treatment effectiveness of massage, which can be used by home medical care stakeholders to develop more effective interventions.

## 1. Introduction

In Japan, the demand for home care has grown exponentially in conjunction with major societal changes, such as the rapidly declining birth rate and aging population, changes in cultural values, and advances in medical technology.<sup>1</sup> As part of a healthcare policy to curb the continuously rising Japanese healthcare costs, the government established a home care services system in 2000.<sup>2</sup> According to the government survey, many individuals want to receive nursing and end-of-life care at home. However, at present, available home care services differ according to the region, and, overall, the home care system is not well developed. Therefore, the government is promoting the reconstruction of an integrated community care system that provides living support, medical care, nursing care, and preventative services at home. With this background, people's expectations for social measures and policies that improve home care services have increased in Japan.

Home care services in Japan are comprehensive, encompassing

medical, welfare, and community health services. The medical services include medical examinations by doctors, nursing care by nurses, and massages provided by massage practitioners. Medical services are currently covered under the public health insurance offered by the government and other bodies.

In Japan, there are several public health insurance systems, and all citizens are required to join one of them. These three primary systems include (1) 'health insurance', which is provided by the federal government and targets individuals employed in the private sector and their families; (2) 'national health insurance', which is managed by local governments and targets the self-employed, unemployed, students, and foreigners; and (3) 'mutual aid associations', which target civil servants and public-school teachers. These insurance systems cover 70–80% of medical bills, and thus citizens only pay between 20 and 30% of their bills out of pocket. Furthermore, citizens aged 75 or older are typically enrolled in a long-term medical care system and only pay for about 10% of their medical bills.<sup>3</sup> This system ensures that Japanese

*Abbreviations:* ADL, activities of daily living; CAM, complementary and alternative medicine; QOL, quality of life

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citizens can obtain medical care with a relatively low financial burden.

Massage services can be covered by health insurance as home care services. When massage is prescribed by doctors, such as for cases of bone dislocation, bone fracture, hemiplegia caused by a brain haemorrhaging, nerve paralysis, and nerve pain, patients must apply for the service to be covered under their health insurance. Massage services by health insurance might be covered when patients have trouble walking.<sup>4</sup> In recent years, as people's expectations for home medical care have increased, the health insurance expenses related to the use of massage at home have increased, reaching upwards of 56 billion yen (500 million US dollars) in 2011. This increasing trend appears to be continuing annually,<sup>5</sup> clearly indicating that the demand for home care massage is increasing.

Massage is generally used to relieve pain from musculoskeletal disorders, such as osteoarthritis of the back,<sup>6–8</sup> neck,<sup>9–11</sup> shoulders,<sup>12–14</sup> and knees.<sup>15–18</sup> It is also used to alleviate pain caused by cancer,<sup>19–21</sup> as well as to relieve stress,<sup>22</sup> increase relaxation, and reduce mental anxiety.<sup>23–24</sup> Recently, randomized clinical trials of massage have been conducted regarding dementia,<sup>25,26</sup> cerebrovascular disease,<sup>4,27–29</sup> and Parkinson's disease,<sup>30–31</sup> which are common disorders in patients receiving home care. In each of these clinical studies, it has been reported that massage is useful for relieving pain and improving functioning. However, there are only a few high-quality studies for each disorder, and those that do exist are characterized by small sample size. No clinical studies have examined treatment effects using randomized controlled trials in patients receiving home care massage. Additionally, while complementary and alternative medicine (CAM) is often used together as part of home massage services, the actual conditions of its use remain unclear. There is no grasp of the complaints and symptoms of patients receiving home care massage.

Therefore, elucidating the disorders, symptoms, and the contents associated with receiving massage services is necessary to examine the effectiveness of home care massage. This study will clarify how many patients utilize this service and the circumstances under which treatment is provided. This is likely to serve as reference data for the future examination of home care services. In addition, in this survey, the role of massage can be clarified in the reconstruction of the comprehensive community care system promoted by the government. It is necessary to strengthen the collaboration between doctors and home healthcare practitioners.

## 2. Methods

### 2.1. Recruitment of massage clinics

The director of each clinic that provides home care massage was asked to participate in this survey through the Japan Society of Practitioners of Acupuncture, Moxibustion, and Massage—the professional association with the largest number of Japanese massage practitioners. We requested cooperation with this survey by sending a letter and an e-mail to massage clinics belonging to the Japan Society of Practitioners of Acupuncture, Moxibustion, and Massage. We received positive replies from the directors of 54 massage clinics.

### 2.2. Survey methods

The survey was conducted from May to August 2013 in clinics that consented to participate. The massage clinics provided data about all patients who underwent home care massage for more than six months at the time of the survey. The clerk staff entered the patients' data, and necessary items were extracted from the medical records. The director of each massage clinic emailed survey data directly to the principal investigator. We responded to questions about surveys, such as input method, by e-mail or telephone. The ethics committee of Tsukuba University of Technology approved the study.

**Table 1**

Location of clinic and number of valid data (N = 1415).

Serial number of the clinic	Location (prefecture)	n	Serial number of the clinic	Location (prefecture)	n
No. 1	Tokyo	438	No. 28	Kagoshima	7
No. 2	Kanagawa	185	No. 29	Chiba	6
No. 3	Kanagawa	160	No. 30	Niigata	5
No. 4	Saitama	145	No. 31	Okinawa	5
No. 5	Oita	65	No. 32	Kagoshima	5
No. 6	Oita	48	No. 33	Kagoshima	5
No. 7	Kanagawa	28	No. 34	Chiba	4
No. 8	Chiba	25	No. 35	Osaka	4
No. 9	Oita	25	No. 36	Aichi	4
No. 10	Kanagawa	24	No. 37	Kagoshima	4
No. 11	Kagoshima	22	No. 38	Nagasaki	3
No. 12	Tokushima	20	No. 39	Kagoshima	3
No. 13	Ehime	17	No. 40	Kagoshima	3
No. 14	Kanagawa	15	No. 41	Kagoshima	3
No. 15	Kagoshima	14	No. 42	Kanagawa	2
No. 16	Kanagawa	13	No. 43	Nagano	2
No. 17	Tochigi	10	No. 44	Nagano	2
No. 18	Ishikawa	10	No. 45	Kagoshima	2
No. 19	Kagoshima	10	No. 46	Kagoshima	2
No. 20	Saitama	9	No. 47	Ibaragi	1
No. 21	Kagoshima	9	No. 48	Wakayama	1
No. 22	Kagoshima	8	No. 49	Toyama	1
No. 23	Kagoshima	8	No. 50	Toyama	1
No. 24	Osaka	7	No. 51	Iwate	1
No. 25	Miyazaki	7	No. 52	Yamanashi	1
No. 26	Gihu	7	No. 53	Gunma	1
No. 27	Kagoshima	7	No. 54	Nagano	1

### 2.3. Measures

The following variables were assessed in the questionnaire survey. Several items in the survey could have multiple answers. The reliability of questionnaire survey was confirmed using Cronbach's Alpha which is an index of internal consistency. The Cronbach's Alpha of the questionnaire excluding age and name of injuries or illnesses was 0.85, which demonstrates high reliability.

- (1) Attributes: Gender and age were extracted from patients' records.
- (2) Symptoms: The clerk staff entered patients' symptoms that comprised muscle paralysis, joint contracture, muscle rigidity, movement disorder, muscle weakness of the limbs, etc. Multiple inputs were allowed.
- (3) Name of injuries or illnesses: The clerk staff were asked to select one of 33 injuries or diseases (see Table 1) that could lead to the aforementioned symptoms (choices of 'others' and 'unknown' were also provided).
- (4) Massage service procedures: The clerk staff could select multiple inputs from among the following: massage, manual therapy, hot fomentation, acupuncture and moxibustion, and electrotherapy (e.g. electroacupuncture, electric moxibustion device, electrophototherapy device, etc.).
- (5) Content of physical therapy provided in combination with home care massage: The clerk staff could select multiple inputs from among the following: activities of daily living (ADL) training, range of joint motion exercise, muscle-strengthening exercise, stretching, others, and no physical therapy.
- (6) Frequency of procedures: The clerk staff were asked to select only one input from the following options: minimum frequency (once a month) to maximum frequency (five times a week or more).
- (7) Duration of procedures: The clerk staff were asked to select only one input regarding the time required for a session of home medical care from among the following: 20–29 min, 30–39 min, 40 or more minutes, and others.

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