

Research Report

Characteristics of Acupuncture Patients in Japan - Data from Nationwide Survey on Complementary and Alternative Medicine –

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Abstract

[Background] In 2001, we conducted a nationwide telephone survey on the use of complementary and alternative medicine in Japan, and found that 6.7% of the Japanese people had used acupuncture in the past 12 months.

[Objective] To further clarify the general characteristics of adult acupuncture patients in Japan.

[Design] Reanalysis and subgroup analysis of our data.

[Method] Data collected in our survey above were used. Analyses focused on 67 acupuncture users out of 1,000 respondents.

[Results] Women tended to receive acupuncture more than men (7.9 % vs. 5.5%). Acupuncture was mainly used for musculoskeletal symptoms (more than 80%). Acupuncture patients used massage/acupressure much more often than non-acupuncture patients (adjusted odds ratio: 8.9). On average, ¥46,657 (median: ¥20,000) was spent by one acupuncture patient per year. In 45% of the 67 acupuncture users, the cost was reimbursed at least partly by insurance.

[Conclusions] It is suggested that acupuncture patients in Japan is more likely to be women, have musculoskeletal problems, receive also massage/acupressure, and pay out-of-pocket. There seems to be a need for educating the public about conditions treatable and the acupuncture reimbursement system of the national health insurance plan.

Key words: acupuncture, patients, Japan, survey

I. Introduction

Acupuncture has become one of the most popular complementary and alternative medicine (CAM) therapies not only in the East but also in the West. Percentages of people who had received acupuncture treatment in the past 12 months were 2.0% in Australia (1992)¹⁾, 1.6% in England (1997-1998)²⁾ and 1.0% in the USA (1997)³⁾. In Italy, 2.9% of the people had undergone acupuncture in the period between 1997 and 1999⁴⁾. We can be fairly confident that larger percentages of people have experienced acupuncture in the East Asian countries where this therapy originated and developed. For example, it has been reported that 8.1% of Korean people had received acupuncture treatment in the year 2000⁵⁾

and that 12.4% of Taiwanese people had at some time received this therapy (1991)⁶⁾. With regard to patients with low back pain, it has been reported that 19% of Korean, 19% of Japanese, 9% of Taiwanese and 5% of Thai had experienced acupuncture⁷⁾.

In Japan, which has a population of approximately 130 million, there are 119,000 licensed acupuncturists who have completed 3-year required courses (in some cases higher education is pursued) (as of the year 2002)⁸⁾. Of these acupuncturists, the number of those who are actually practicing is 74,000 (reported as of 2002)⁹⁾. As for the characteristics of acupuncture patients in Japan, there are several survey reports from local or limited groups of the people. In Bunkyo Ward of Tokyo, 8.5% of the adult population reportedly used acupuncture in

1986, these tended to an elderly group with higher incomes¹⁰. In another report (2001), those who reported some subjective symptoms, 7.4% visited therapists of massage, acupuncture or Judo-seifuku (traditional manual reduction) for the relief of their main symptom¹¹. However, in Japan there had been no nationwide survey reporting data specific to acupuncture patients.

In 2001, for the first time we conducted a nationwide telephone survey on the use of CAM in Japan, and found that 6.7% (95% confidence interval (95%CI): 5.2-8.2) of the Japanese people had used acupuncture in the past 12 months (2000-2001)¹². In order to further clarify the general characteristics of adult acupuncture patients in Japan, we show here the results of the reanalysis and subgroup analysis of this data.

In the present paper, we define "acupuncture" as a combined treatment of acupuncture and moxibustion because these two therapies are inseparable in the actual Japanese practice.

II. Method

We used the data collected in our telephone survey on CAM use conducted in April, 2001¹². Briefly, using a region-, gender- and age-weighted sampling table, professional operators made phone calls with random-digit dialling. In developing the sampling table, all the prefectures of Japan were categorised geographically into 10 regions, and then subcategories of gender and age groups (20-39, 40-59 and 60-79 years) were applied to each region. Thus, the Japanese adult population was categorised into 60 groups by region, gender and age. We allocated the figure of 0.001% of the actual Japanese population in each group. The figure of 0.001% was a reduction rate: 1,000, which was the sample size of the present survey, divided by 95,717,000, which was the actual Japanese population between 20 and 79 years of age. For example, in a group of the male people aged between 20 and 39 years living in the Hokkaido region, the actual population was 751,000. We multiplied this figure by 0.001% and rounded to 8: this value became the targeted number of the eligible respondents in this quota. As a result, the percentage of eligible call was 23%. Of 1,000 respondents, 6.7% (27 men and 40 women) had used acupuncture in the past 12 months¹².

Focusing on the acupuncture users, we performed reanalysis and subgroup analysis of the data in terms of socio-demographics (i.e., gender, age group, area of

residence, completed level of education, and annual income per one household member), purpose for seeking acupuncture treatment, annual expenditures on acupuncture, amount reimbursed by insurance, use of other therapies, and so on.

III. Results

As shown in Table 1, females tended to receive acupuncture treatment more than males (7.9% vs. 5.5%). Females, aged 20-39 years, were the most frequent users while males in the elderly group used acupuncture least (8.8% vs. 4.3%). The percentage of the acupuncture users who had a high school level or lower education was greater than that of those who had a college level or higher education (8.2% (95%CI: 5.9-10.5) vs. 5.7% (95%CI: 3.3-8.0)). All the differences above were not significant in view of the confidence intervals. There was no remarkable trend in terms of acupuncture users with respect to area of residence and annual income.

Table 2 shows medical conditions for which the respondents underwent acupuncture treatment. Acupuncture was used mainly for musculoskeletal symptoms (accounting for more than 80% (top five symptoms and elbow pain) of all medical conditions reported by the respondents).

Compared with non-users, acupuncture users tended to use some other CAM therapies (Table 3). Especially, "massage or acupressure" was used by acupuncture users much more than non-users. Of the 40 acupuncture users who had used also "massage or acupressure", 28 (70%) used both therapies (acupuncture and massage/acupressure) for the same medical condition, and in 26 (93%) of them the condition was musculoskeletal symptoms. On the other hand, of the 23 acupuncture users who had used also "herbs and over-the-counter (OTC) Kampo", only seven (30%) used both therapies (acupuncture and herbs/OTC Kampo) for the same medical condition.

Table 4 shows the mean annual expenditures on acupuncture in 67 acupuncture users. On average, ¥ 46,657 (median: ¥ 20,000) was spent by one acupuncture patient in one year. In 30 (45%) out of 67 acupuncture users, the cost was reimbursed at least partly by health or liability insurance. The proportion of reimbursement for acupuncture was 51% (¥ 1,605,486 / ¥ 3,125,986).

Table 1 Percentages of Japanese people who had used acupuncture in the past 12 months

| Age group | 20-39 years | 40-59 years | 60-79 years | Total |
|-----------|---------------|---------------|---------------|----------------|
| Males | 5.9% (11/188) | 5.9% (11/187) | 4.3% (5/116) | 5.5% (27/491) |
| Females | 8.8% (16/181) | 7.4% (14/189) | 7.2% (10/139) | 7.9% (40/509) |
| Total | 7.3% (27/369) | 6.6% (25/376) | 5.9% (15/255) | 6.7% (67/1000) |

(Acupuncture users/total number in parentheses)

Table 2 Medical conditions for which acupuncture was used by the Japanese respondents

| Condition treated | % |
|--------------------------------|------------|
| Low back pain | 37 (25/67) |
| Stiff neck | 28 (19/67) |
| Shoulder pain | 7 (5/67) |
| Knee or lower extremity pain | 7 (5/67) |
| Neck pain | 4 (3/67) |
| Pain (region unspecified) | 4 (3/67) |
| Shoulder (symptom unspecified) | 3 (2/67) |
| Headache | 3 (2/67) |
| Fever | 3 (2/67) |
| Fatigue | 3 (2/67) |
| Elbow pain | 3 (2/67) |
| Abdominal pain | 3 (2/67) |
| Others | 10 (7/67) |

(Number of case/total number of acupuncture users (n=67). Percentages do not total 100 because some respondents gave more than one condition.)

Table 3 Use of other CAM therapies by acupuncture users compared with non-users

| Category of CAM | Crude odds ratio | Adjusted odds ratio (Exp(B))* | 95% CI* | P* |
|------------------------------|------------------|-------------------------------|----------|-------|
| Massage or acupressure | 11.3 | 8.9 | 5.0-15.6 | 0.000 |
| Chiropractic or osteopathy | 5.5 | 1.9 | 0.9-3.8 | 0.079 |
| Herbs or OTC Kampo | 2.8 | 1.9 | 1.0-3.4 | 0.038 |
| Aromatherapy | 2.0 | - | - | - |
| Health-related appliances | 2.3 | - | - | - |
| Dietary supplements | 1.8 | - | - | - |
| Kampo prescribed by doctor | 2.1 | - | - | - |
| Nutritional and tonic drinks | 1.4 | - | - | - |

* Binary logistic regression analysis (Stepwise method). N=1,000. Covariates: orthodox Western medicine, nutritional and tonic drinks, dietary supplements, health-related appliances, herbs/OTC Kampo, massage/acupressure, ethical Kampo, aromatherapy, chiropractic/osteopathy, homeopathy, age group, gender and area of residence. Computer software: SPSS 12.0J (SPSS Japan Inc., Tokyo).

Table 4 Annual expenditures on acupuncture in acupuncture users

| (n=67) | Average per person(95%CI) | Median | Maximum | Minimum |
|-------------------|---------------------------|----------|-----------|---------|
| Amount reimbursed | ¥ 23,962 (11,663-36,262) | ¥ 0 | ¥ 308,163 | ¥ 0 |
| Out-of-pocket | ¥ 22,694 (14,982-30,406) | ¥ 10,000 | ¥ 150,000 | ¥ 0 |
| Total | ¥ 46,657 (29,991-63,322) | ¥ 20,000 | ¥ 408,163 | ¥ 0 * |

* Some users received the treatment free, but the reason was not asked.

IV. Discussion

In our original survey on the use of CAM¹²⁾, the design was insufficient to perform subgroup analysis of acupuncture users. The sample size of 1,000 respondents was good enough to estimate CAM users as a whole in Japan, but the number of acupuncture users was only 67, which is insufficient for extrapolation to the present situation of acupuncture patients in Japan. There are also some limitations in the original survey itself¹²⁾. First, because of the low eligibility rate (23%), it is unknown whether or not there were some relevant characteristics in people who refused to answer. Second, the following groups of people were not included in the survey: people 80 years or older; under 20 years; people who could not speak on the phone, e.g., patients in hospital. Third, it may have been difficult for the respondents to recall precisely how much they spent for acupuncture in the past 12 months. In the field of Japanese acupuncture to date, there have been no other population-weighted nationwide surveys. Therefore, in spite of all these insufficiencies, we regard the results as representative data.

Based on statistics on patients at our clinic¹³⁾, the trend that the females were more likely to seek acupuncture treatment is consistent with our expectation. On the other hand, though the difference was not statistically significant, the high percentage younger females who sought acupuncture conflicts with our clinic's data. We have more middle-aged female acupuncture patients at our clinic¹³⁾. That a high percentage of less well educated people receive acupuncture was also contradictory. In Bunkyo Ward of Tokyo in 1986, older and highly educated people were more likely to receive acupuncture¹⁰⁾. These discrepancies may just be a reflection of small sample size or some unknown confounding factors in our study. However, as for the younger generation's use, there may have been a recent change of attitude toward acupuncture. Until more large-scale surveys focusing on acupuncture use are conducted in the future, it remains to be seen whether attitudes are actually changing.

We found that Japanese people receive acupuncture treatment mainly for musculoskeletal symptoms. This consists well with the result of postal questionnaire survey of Japanese acupuncturists conducted in 200¹⁴⁾. It seems reasonable to suppose that acupuncture is applied mainly for pain or musculoskeletal problems in industrialized countries. However, compared with the situation in the Western countries^{15,16)}, the range of conditions

treated by acupuncture in Japan seems somewhat narrow. If we consider that Japan is one of the East Asian countries where acupuncture originated and developed, the people's stereotyped view of indication for acupuncture appears too limited. These views may be a consequence of the 130-year history of overwhelming dominance of modern western medicine in Japan. In Japan there are a substantial number of published papers reporting various conditions, including incurable diseases, treated by acupuncture. Unfortunately, from a quantitative point of view, compared with cases of musculoskeletal symptoms, these case studies are not currently common knowledge among Japanese acupuncture patients.

As we see from Table 3, acupuncture users seem more likely to use other CAM therapies. A survey in Bunkyo Ward in Tokyo reports the same trend¹⁰⁾. These results suggest that acupuncture users have a positive attitude toward CAM therapies in general. As for the use of "massage or acupressure" by acupuncture patients, there may be a specifically Japanese reason. There is a national licensure system for therapists of massage and acupressure, acupuncture, and moxibustion in Japan. Most acupuncturists have also a moxibustion license, and some have also massage and acupressure licenses. Thus, some acupuncture patients may have received massage or acupressure during acupuncture treatment session. We believe this is the main explanation for the extremely high odds ratio of the use of "massage or acupressure" in acupuncture users.

Although there is a universal coverage system under the public health insurance provided for all Japanese (approximately 70% of the cost is reimbursed), the coverage inclusion of acupuncture is limited to six conditions: neuralgia, rheumatoid arthritis, cervicobrachial syndrome, frozen shoulder, low back pain and neck sprain (whiplash). Further, acupuncture costs can be reimbursed only when the patients get a medical doctor's consent document or medical certificate. These limitations and complications probably accounts for only 45% of the acupuncture patients benefiting from the reimbursement. There are also other insurances which cover the costs for acupuncture - liability insurance and worker's accident insurance. However, we cannot discuss them here because we do not have the relevant statistics available.

In 2001, national medical expenditures in Japan was ¥ 31 trillion¹⁷⁾ (excluding acupuncture). If we tentatively estimate the size of acupuncture market (i.e., acupunc-

ture expenditure of the whole nation per year), it would be between ¥ 134 billion and ¥ 313 billion, with an at present unaccountable portion for people 80 years or older, less than 20 years, and patients in hospitals. We made the following estimate: ¥ 20,000 (median, see Table 4) or ¥ 46,657 (average, see Table 4) × 67 users (out of 1,000 respondents) × 100,000 (proportion of the sample size extrapolated to the actual population). Considering the medical cost of whole nation and the number of acupuncturists in Japan, the estimated market size of acupuncture is not very large. According to a survey in the USA, the rate of insurance coverage for CAM strongly correlates with the frequency with which people use CAM providers¹⁸⁾. Therefore, whether or not acupuncture gains a market share in the future seems to depend on the extent of health insurance coverage for acupuncture.

V. Conclusions

Taken the present analyses and other published data together, regarding adult acupuncture patients in Japan the followings are suggested: women are more likely to receive acupuncture treatment; acupuncture is mainly used for musculoskeletal symptoms; acupuncture patients use massage or acupressure much more often than non-acupuncture patients; and less than half of acupuncture patients benefit from the health insurance system. Although more large-scale surveys focusing on acupuncture patients are needed for confirmation, there seems to be a need for educating the public about the conditions treatable by acupuncture and the acupuncture reimbursement system of the national health insurance plan.

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