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Prevalence of visits to massage therapists by the general population: A systematic review

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A B S T R A C T

Objective: To systematically review 12-month prevalence of visits to massage therapists by representative samples of the general population across countries.
Methods: Surveys reporting estimates of overall CAM use were included. Studies were identified via database searches. Study quality was assessed using a six-item tool.
Results: Twenty-two surveys across six countries were included. Estimates for 12-month prevalence of visits to massage therapists by adults ranged from 0.4% to 20% and the median was 5.5%. Estimates for children were 0.3%–3.8% (median 0.7%), while estimates for older adults were 1.5%–16.2% (median 5.2%). 16 surveys (73%) met at least four of six quality criteria.
Conclusions: This review summarises 12-month prevalence of visits to massage therapists in six countries (USA, UK, Canada, Australia, Singapore and South Korea). A small but significant percentage of these general populations visit massage therapists each year.

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1. Introduction

We recently published results of a broad-scale systematic review assessing prevalence of use of complementary and alternative medicine (CAM) within general populations across 15 countries [1]. Estimates of 12-month prevalence of use of any CAM ranged from 9.8% to 76% (based on 32 studies), while estimates of 12-month prevalence of visits to CAM practitioners ranged from 1.8% to 48.7% (based on 33 studies). Though these ranges were wide, estimates of 12-month prevalence of any CAM use (excluding prayer) from surveys using consistent measurement methods showed stability within some countries, such as Australia (49%, 52% and 52% in 1993, 2000 and 2004 respectively) and USA (36% and 38% in 2002 and 2007). We separately reported data from these general population studies on 12-month prevalence of visits to practitioners for five types of complementary and alternative medicine (CAM): acupuncture, homeopathy, osteopathy, chiropractic, and medical herbalism [2].

The study presented here is a systematic review of the subset of these general population studies with reports of 12-month prevalence of visits to massage therapists by representative samples of the general population. Massage is an umbrella term for an array of different styles and techniques (e.g. Swedish, Sports, Aromatherapy, Reflexology, and Shiatsu massage) involving the application of bodily contact and physical pressure using hands, fingers, forearms, elbows, knees, or feet, with therapeutic intent. Attempts to define and classify the extensive range of types of massage have met with limited success and sometimes confusion [3]. However, the use of massage for relaxation and remedial purposes has a long history and is evident in most cultures, for instance, massage was and remains an integral part of traditional Chinese medicine and Ayurvedic medicine, and a wide range of massage styles have evolved in other eastern countries as well as in Australia, Europe and the USA [3]. Indeed, the very diversity of style and technique is itself reflective of the persistence and popularity of this type of therapy and although the scientific research for the effectiveness of massage is limited there is evidence that it can be beneficial, for example, massage appears to be useful for people with low-back pain [4]; one of the most common and costly musculoskeletal problems. There is also evidence of an active research programme in the USA with funded studies investigating the effects of massage on a variety of conditions including chronic neck pain and low-back pain; anxiety and depression in patients with advanced AIDS; and fatigue, pain and distress in cancer patients [5].

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Although the use of massage appears to be popular and widespread, this has not been previously been demonstrated. This is the first study to systematically review data on the prevalence of visits to massage therapists by the general public. The review focusses on visits to therapists rather than self-treatment. This decision was made on the basis that estimates for visits to massage therapists are likely to be better-defined and less prone to recall bias than estimates for self-massage.

2. Methods

2.1. Search strategy

The systematic review followed the recommendations in the PRISMA statement [6]. The following databases were searched in February 2011: MEDLINE, Medline in Process, EMBASE, Cochrane Database of Systematic Reviews, Cochrane CENTRAL Register of Controlled Trials, HTA database, Science Citation Index, AMED, and PsycINFO. The search strategy combined terms for: i) complementary and alternative medicines, ii) prevalence, surveys or patterns of use, and iii) population-level or national-level data. The full search strategy is provided in our previous article on prevalence of use of any CAM [1]. The search was restricted to studies published from 1998 onwards. Studies published prior to 1998 were identified from two previous systematic reviews of CAM prevalence [7,8]. Bibliographies of included papers were checked for further relevant studies.

2.2. Inclusion and exclusion criteria

Studies were included if they reported 12-month prevalence of visits to massage therapists, in addition to prevalence of overall CAM use and/or visits to CAM practitioners (the latter were inclusion criteria for the broader review). Prevalence had to be reported over a 12-month retrospective period within a representative general population sample of a nation or a defined geographical area. Surveys of clearly-defined age groups (such as adults, children or older adults) were included. Included studies used survey methods such as structured interviews or self-complete questionnaires. Studies were excluded if they did not report 12-month prevalence, or were not written in English. Studies were also excluded if they were not based on representative samples of the general population; for example, surveys of sub-populations with specific clinical conditions or socio-demographic characteristics (other than age).

2.3. Study selection and data extraction

Study titles retrieved by the search were assessed for inclusion by one reviewer and a sample of excluded titles was checked by a second reviewer. Potentially relevant abstracts and full texts were assessed by two reviewers and any discrepancies resolved through discussion. Data were extracted by one reviewer and checked by a second.

2.4. Quality assessment

There is no agreed set of criteria for assessing the quality of health-related surveys. As part of our wider systematic review on prevalence of overall CAM use, we devised a six-item, literature-based quality assessment tool comprising important and assessable criteria of methodological quality [1]. This was applied to each of the included studies. The criteria covered by the quality assessment tool include 1) whether CAM-use questions were clearly described and number of therapies/questions reported; 2) whether the survey was piloted (this was assumed for government surveys); 3) whether the sample size was $\geq$1000 and/or a CAM-specific sample size calculation was reported; 4) whether the reported response rate was $\geq$60%; 5) whether data were weighted to population characteristics (where appropriate) to reduce non-response bias; and 6) whether a 95% confidence interval or standard error were reported for the 12-month prevalence of CAM use.

3. Results

3.1. Number of surveys included

The wider search for surveys on CAM use identified 2312 unique citations. Of these, 2208 were excluded at the title and abstract stage, while the full texts of 104 references were examined. A total of 26 references were included in this review, reporting data from 22 independent surveys conducted in six countries (USA, UK, Canada, Australia, Singapore and South Korea). There were 18 surveys reporting data on adults or all ages, 4 reporting data for children and 6 reporting data for older adults.

3.2. Definitions of massage therapy

Few surveys reported whether they provided a definition of massage therapy to respondents, though our analysis is restricted to surveys which specified visits to a massage therapist rather than self-massage or informal massage by friends or family. One study specified “therapeutic massage”, though this was not defined further (Table 1) [9]. Another study specified Western massage therapy, though again this was not defined further [10] (this study also reported use of Chinese therapeutic massage, but the two estimates could not be added as it was not clear whether any patients received both, so the former was used since estimates were higher). Few surveys reported whether massage therapist visits were for health reasons or for recreational reasons though most were in the context of a survey or survey subsection relating to health and healthcare (Table 1). Five surveys (within 7 reports) reported specifying to respondents that the visits should be for health reasons [11–17], while two implied that the visits may be for any reason [18,19]; other surveys were not clear on this point.

3.3. Prevalence of visits to massage therapists

Table 1 presents the 12-month prevalence of visits to massage therapists as reported in the 22 surveys. Survey data are ordered by country, then survey type (government, other national, or sub-national), then year of survey. Data are grouped by age: adults or all ages; children; and older adults. Further detail (sampling and data collection methods for each survey) is provided in our earlier publication [1]. Table 2 provides a summary of the median and range for prevalence of visits for each age group.

Based on all surveys, estimates for 12-month prevalence of visits to massage therapists by adults (18 surveys) ranged from 0.4% to 20% and the median was 5.5% (Table 2). Estimates for children (4 surveys) ranged from 0.3% to 3.8% with a median of 0.7%, while estimates for older adults (6 surveys) ranged from 1.5% to 16.2% with a median of 5.2%.

Estimates from government surveys were more consistent. The five US government surveys estimated that between 2.0% and 8.3% of the adult (or all ages) population had visited a massage therapist in the previous 12 months. Rates were similar over the years surveyed (1995–2007). Rates for other government surveys were similar: 2.1%–6.0% for the UK (2001–2005) and 2.0%–7.8% for Canada (1994–2005). Ranges and medians for government surveys are presented in Table 2.

Table 1
Prevalence of visits to massage therapists across six countries.

Country	Survey type	Year of survey	Name of survey[b]	Sample size	Sample ages (% males)	Meets ≥4 quality criteria	Visited massage therapist (%)	Visited any CAM practitioner (%)	Reference	Definition of massage in survey	Health reasons or any reason
Adult or all ages											
USA	Government national	2007	NHIS	23,393	18+ (NR)	Yes	8.3	16.2	Barnes (2008) [20]	–	–
		2002	NHIS	31,044	18+ (NR)	Yes	5.0	12.5	Barnes (2004) [21]	–	–
		1999	NHIS	30,801	18+ (NR)	Yes	6.4	–	Ni (2002) [22]	–	–
		1996	MEPS	16,068	18+ (47)	Yes	2.0	8.3	Druss (1999) [11]	–	Health
		1995–6	MIDUS	4242	25–74 (43)	Yes	8.2	–	Honda (2005) [23]	–	–
USA	Other national	1997		2055	18+ (48)	Yes	6.8	19.5	Eisenburg (1998) [24]	–	–
		1997		1500	18+ (NR)	–	14.0	–	Landmark (1998) [25]	–	–
		1994		2056	18–64 (49)	Yes	4.5	9.4[a]	Paramore (1997) [9]	Therapeutic	–
		1990		1539	18+ (52)	Yes	2.9	12.3	Eisenberg (1993) [12]	–	Health
USA	Sub-national	1999		1059	18+ (NR)	–	0.4	8.6	Arcury (2004) [13]	–	Health
UK	Government national	2005	HSE	7630	16+ (45)	Yes	6.0	12.1	Hunt (2010) [26]	–	–
		2001	NOS	1794	16+ (47)	Yes	2.1	10.0	Thomas (2004) [27]	–	–
UK	Other national	1999		1204	18+ (45)	–	1.2	–	Ernst (2000) [28]	–	–
Canada	Government national	2001–5	CCHS	400,055	12+ (49)	Yes	7.8	12.4	Metcalfe (2010) [14]	–	Health
		1994–5	NPHS	17,626	15+ (NR)	Yes	2.0	15.0	Millar (1997) [15]	–	Health
Australia	Other national	2005		1067	18+ (49)	Yes	20.0	44.1	Xue (2007) [10]	Western	–
Singapore	Sub-national	2002		468	18+ (46)	–	7.8	–	Lim (2005) [18]	–	Any
South Korea	Other national	2006		3000	30–69 (50)	–	1.4	–	Ock (2009) [29]	–	–
Children											
USA	Government national	2007	NHIS	9417	0–17 (NR)	Yes	1.0	–	Barnes (2008) [20]	–	–
		1996	MEPS	6262	0–17 (52)	Yes	0.3	1.8	Davis (2003), Yussman (2004) [16,17]	–	Health
USA	Other national	1994		980	1–17 (NS)	Yes	0.4	–	Paramore (1997) [9]	Therapeutic	Any
Australia	Government sub-national	2004	SAHOS	911	0–15 (46)	Yes	3.8	–	Smith (2006) [19]	–	Any
Older adults											
USA	Government national	1995–6	MIDUS	335	65–74 (48)	Yes	4.0	–	Honda (2005), McMahan (2004) [23,30]	–	–
USA	Other national	1994		414	65+ (NS)	Yes	1.5	–	Paramore (1997) [9]	Therapeutic	–
USA	Sub-national	1997–8		728	65+ (45)	–	6.0	–	Astin (2000) [31]	–	–
		NR		445	65–94 (45)	–	16.2	–	Cheung (2007) [32]	–	–
Australia	Other national	2005		178	65+ (43)	Yes	13.9	34.9	Xue (2007), Zhang (2007) [10,33]	Western	–
Singapore	Government national	2003–4	NMHSE	1092	60+ (44)	Yes	4.4	–	Feng (2010) [34]	–	–

[a] Estimate for all ages.
[b] Survey names are provided where reported for government-sponsored surveys: CCHS = Canadian Community Health Survey; HSE = Health Survey for England; MEPS = Medical Expenditure Panel Survey; MIDUS = Midlife Development in the US; NHIS = National Health Interview Survey; NOS = National Omnibus Survey; NMHSE = National Mental Health Survey of the Elderly; NPHS = National Population Health Survey; SAHOS = South Australian Health Omnibus Survey.

3.4. Study quality

Table 3 provides a summary of the quality of included survey reports. Full details for each survey are reported in our earlier publication [1]. The proportion of all survey reports achieving each of our criteria ranged from 59% to 91%. Of all 22 surveys, 16 (73%) met four or more quality criteria; these percentages were 100% for government-sponsored surveys and 45% for other surveys. This difference was partly due to the piloting criterion, where we made the assumption that all government-sponsored surveys were piloted.

4. Discussion

This report provides a comprehensive and systematic review of surveys reporting 12-month prevalence of visits by general populations to massage therapists. This complements our previous reports which systematically reviewed prevalence of any CAM use and visits to any CAM practitioner [1], and visits to acupuncturists, homeopaths, chiropractors, osteopaths and medical herbalists [2]. The data reported here include estimates from 22 surveys across six countries.

The survey data indicated that the percentage of the general population (adult or all ages) visiting massage therapists over the previous 12 months was in the range of 0.4%–20%, with a median estimate of 5.5%. Our findings suggest that the general public (adult or all ages) of the six countries surveyed were more likely to visit a massage therapist than a practitioner of four of the five therapies previously reported: acupuncture (median 1.4%); homeopathy (median 1.5%); osteopathy (median 1.9%); and medical herbalist (median 0.9%). Only chiropractors (median 7.5%) were visited more often and this was accounted for by its popularity in Australia, Canada, and the USA [2].

Data were obtained from surveys which also reported overall 12-month prevalence of any CAM use and/or visits to any CAM practitioner. Therefore, any surveys only reporting visits specifically to massage therapists but not reporting overall CAM use or visits were not included in this review. This was due to the design of this review which focussed on studies reporting this overall data, and is a potential limitation of this review. Conversely, data from the types of

Table 2
Summary of prevalence of visits to massage therapists.

Age group	All surveys		Government-sponsored surveys	
	N surveys	Median % (range)	*N* surveys	Median % (range)
Adults or all ages	18	5.5 (0.4–20.0)	9	6.0 (2.0–8.3)
Children	4	0.7 (0.3–3.8)	3	1.0 (0.3–3.8)
Older adults	6	5.2 (1.5–16.2)	2	4.2 (4.0–4.4)

Table 3
Summary of the methodological quality of surveys.

Quality criterion	All survey reports $N = 22$		Gvt. sponsored survey reports $N = 11$		Other CAM survey reports $N = 11$	
	n	%	*n*	%	*n*	%
1. CAM-use questions clearly described and number of therapies/questions reported	19	86	10	91	9	82
2. Piloting of survey reported (or assumed for government surveys)	16	73	11	100 (assumed)	5	45
3. Sample size ≥1000 and/or CAM-specific sample size calculation reported	20	91	11	100	9	82
4. Reported survey response rate ≥60%	14	64	9	82	5	45
5. Data weighted to population characteristics (where appropriate) to reduce non-response bias	16	73	9	82	7	64
6. 95% confidence interval or standard error reported for main prevalence estimates	13	59	7	64	6	55
Four or more criteria met	16	73	11	100[a]	5	45

[a] This includes the assumption that the piloting criterion is met by 100% of government-sponsored surveys.

survey included here (many of which were government-sponsored surveys or large population surveys) may be expected to be of higher quality than data from surveys of a single therapy, although we acknowledge that the most recent survey reporting on the use of massage was conducted in 2007 [20]. A further limitation is the exclusion of studies not reported in English, although English-language reports of surveys from any country were included.

The quality of methodological reporting was variable; 16 of 22 surveys (73%) met four or more of six quality criteria. These rates were higher for government surveys, though this was partly due to our assumption that all government-sponsored surveys were piloted. Our earlier report showed wide variation in estimates of 12-month prevalence of any CAM use (range 9.8%–76%) and visits to CAM practitioners (range 1.8%–48.7%), which was likely due in part to the variation in the way CAM is defined for data collection. Conversely, data reported here on visits to massage therapists were more consistent with a narrower range. This formed part of our rationale for focussing on prevalence of visits to practitioners rather than self-treatment, since we felt that data on practitioner visits would be better-defined and less prone to recall bias.

Our analysis was restricted to reports specifying visits to a massage practitioner, and most estimates were in the context of a survey or survey subsection relating to health and healthcare. However, few surveys reported providing a definition of massage therapy to respondents, and only 5 of the 22 surveys specified that massage was used for health reasons. We recommend that all future health surveys specify to respondents that the visits to massage therapists are for health and wellbeing reasons. We also recommend that future surveys concerned exclusively with the prevalence of massage use, ask respondents about the type of massage used. Finally further research is indicated and identifying the most frequently used types of massage therapy within a culture will provide useful data for formulating research questions.

In summary, this review provides a comprehensive overview of prevalence of visits to massage therapists by general populations in the USA, UK, Canada, Australia, Singapore and South Korea.

Conflict of interest statement

None.

Author contributions

All authors contributed to the design of the review, extraction and compiling of the data, drafting and critical revision of the manuscript.

Disclosures

None.

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