



Use of Complementary and Alternative Medicine in Israel: 2000 vs. 1993

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Abstract

Background: Complementary and alternative medical care has gained increasing popularity in western societies in recent years.

Objectives: To provide a cross-sectional and temporal (2000 vs. 1993) analysis of the use of complementary and alternative medicine in Israel.

Methods: The subjects studied represented the Israeli Jewish urban population aged 45–75 years. Full sit-down interviews were conducted with 2,003 respondents in 1993 and 2,505 respondents in 2000.

Results: For 1993, 6% of the population reported on consultations with CAM providers during the previous year. For 2000, that proportion increased to 10%. Being a woman, having higher education, enjoying better economic status, being younger, living in a big city, and being dissatisfied with specialists' care were all positively related to the use of non-conventional medicine, particularly in 2000. In both years, more than 50% of the consultations were with acupuncturists and homeopaths. However, chiropractors have doubled their market shares, and lower back pain became the leading problem for which care was sought. The main reason for consulting CAM was a reluctance to use too many drugs or to undergo an invasive procedure. However, a significant proportion of the users continue to use conventional medicine concurrently. Seventy-five percent in 2000 and 60% in 1993 reported that the treatment helped.

Conclusions: Between 1993 and 2000, CAM in Israel changed from an infant industry into a mainstream medical commodity, reflected in both prevalence and different patterns of consumption.

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There is growing evidence in many western societies of increased use of complementary and alternative medicine by consumers. A combination of factors has been discussed in the literature to account for these processes. These include: growing disillusionment with the technology and bureaucracy of biomedicine; increased questioning of its excessive invasiveness; heightened consumer awareness of iatrogenic effects of modern medicine; growth in expectations for quality service, including structural changes in the physician-patient relationship; and widespread demystification – that have led to considerable erosion of confidence in modern science as a means of solving problems [1–12].

CAM = complementary and alternative medicine

On the formal level, a 1976 law provides that only those holding a recognized medical license may practice medicine in Israel. The Israel Medical Association acknowledges the possible usefulness of certain forms of “alternative” medicine (acupuncture, chiropractic, podiatry, etc.) but only if they are practiced by or under the full supervision of a biomedical physician. A second group includes fields like homeopathy and should be regarded with reservation. The IMA recommends that only physicians practice these fields. The third group, which the IMA regards as charlatanism, should be rejected [13]. Despite the above, more than 20 forms of CAM are used widely in Israel. Between 42% and 60% of biomedical general practitioners have reported referring patients to non-conventional practitioners [14–18]. It is estimated that in 1998 there were about 5,500 alternative practitioners in Israel (one practitioner per 1,000 population) operating mostly in private clinics on a fee-for-service basis, and another 10,000 persons were participating in a variety of training programs [18,19]. By the year 2000, in addition to private solo-practice, non-conventional care clinics were established as outpatient clinics in one-third of the public hospitals and as community clinics by all four of the health plans (sick funds) in Israel. Since the enactment of the National Health Insurance Law in 1995, the four sick funds have offered their members the option to purchase supplementary insurance policies that cover services not included in the basic set of entitlements; these include partial reimbursement for non-conventional healthcare [20]. In 2000, 45% of the population had purchased such supplementary insurance policies [21].

This study aimed to explore cross-sectional variations and temporal changes in the patterns of CAM use in the urban Jewish Israeli population aged 45–75. The study provides an analysis of two micro-level surveys: the first performed in 1993 and the second in 2000.

Methods

Survey data

Both in 1993 and in 2000, full sit-down face-to-face interviews were conducted by Geocartographia, a private institute for spatial analysis, under the supervision of the research team. The 1993 survey included 2,003 individuals and the 2000 survey, 2,505 individuals.

IMA = Israel Medical Association

Variables

● CAM use

The two surveys comprised a similar set of questions regarding the use of CAM. This set included the following variables: use during the previous year, the main type of CAM used, the medical problem for which CAM treatment was used, the reason for consulting a CAM provider, referral pattern, perceived efficacy of and satisfaction with CAM, whether the provider is a MD, whether conventional treatments were used concurrently, and the out-of-pocket expenditure on CAM.

● Other variables

For the analysis of CAM use we considered the following characteristics: religiosity (secular, traditional, religious, orthodox), age, gender, education (elementary, high school, university), subjective economic status ("very good" and "good" vs. "fair" and "poor," the recoding being based on the frequency distribution), ethnic origin (second generation Israelis, Asia-Africa, Europe-America, and post-1990 immigrants from the former USSR), locality size (200,000+ inhabitants vs. smaller localities), marital status (married vs. divorced, separated, single and widowed), and sick fund (health plan) membership (four sick funds were operating in Israel in both 1993 and 2000).

Health state was indicated by two variables. First, chronic health was defined as the number of self-reported chronic conditions from among the following eight: heart disease, hypertension, diabetes, joint problems, ulcers, kidney disease, cancer and respiratory disease. The second health measure was the Visual Analogue Rating Scale, which provides a self-evaluation of the person's health-related quality of life during the previous month on a 0–100 scale, where 0 = death and 100 = perfect health.

Finally, we considered scales that measure satisfaction with family physicians and with specialists, each defined as a seven point scale where 1 = very low satisfaction and 7 = very high satisfaction. Each of the satisfaction scores was available only for those who had used the service during the 2 years preceding the interview.

Statistical strategy

In order to explore the cross-sectional patterns and the temporal variation in consultations with CAM providers, we conducted multivariate and bivariate analyses. For the analysis of CAM use we employed logistic regression. Further details on the consumption of CAM are described subsequently, where differences across years or personal characteristics are tested by chi-square tests.

Results

The samples exactly matched the populations in age, gender, sick fund membership and settlement size. In both samples there was a slight over-representation of Israeli-born respondents, and persons with 9–12 years of schooling were somewhat over-represented. In 1993, new immigrants (1990 onward) from the former USSR were under-represented in the sample (many of them were still in immigrant absorption centers).

Table 1. Variables, definitions and means

		1993	2000
Self-defined religiosity			
Secular	Base category	0.590	0.585
Traditional		0.295	0.282
Religious		0.097	0.108
Orthodox		0.018	0.025
Gender and age			
Men		0.475	0.474
Age (yrs)		58.030	57.650
Education			
Elementary	Base category	0.255	0.178
High school		0.525	0.516
University		0.220	0.306
Subjective economic status			
"Very good" or "good"		0.486	0.492
Ethnic origin			
Israeli 2nd generation	Base category	0.094	0.129
Europe-America		0.451	0.337
Post-1990 immigrant from former USSR		0.071	0.149
Asia-Africa		0.384	0.386
Locality size			
Big city (200,000+ inhabitants)		0.281	0.254
Marital status			
Married		0.798	0.761
Sick fund			
Clalit	Base category	0.770	0.657
Maccabi		0.113	0.200
Meuhedet		0.051	0.067
Leumit		0.066	0.077
Health			
No. of chronic conditions (out of 8)		0.945	0.968
VAS: 0 (death)–100 (perfect health)		71.170	69.130
Satisfaction with health services			
(1=very low, 7=very high)			
Satisfaction with family physicians		5.989	6.049
Satisfaction with specialists		5.875	5.763

VAS = Visual Analogue Scale

2000 vs. 1993: demographic and socioeconomic changes

The first set of results refers to background population changes that occurred between 1993 and 2000 [Table 1]. There were several significant changes. First, the population became more educated. Second, there were significant shifts in the ethnic origin composition of the population. Third, the general economic status of the Israeli population improved from 1993 to 2000. Fourth, there were significant changes in the market shares of the various sick funds.

The use of CAM and its determinants: 2000 vs. 1993

In 1993, 6.1% of the population (n=121) had a contact with a CAM provider during the previous year as compared to 9.8% (n=246) in 2000, a 61% increase ($P = 0$). Such an increase reflects an approximate 8% average annual increase. That increase cannot be attributed to changes in the sociodemographic structure of the population only (e.g., the increased level of education) since dramatic increases are observed in most sociodemographic groups.

Table 2. Logistic regression of the probability to consult non-conventional medicine providers in Israel

Variable	Model 1				Model 2			
	1993		2000		1993		2000	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Constant	-2.718	-2.818	-0.807	-1.076	-1.482	-1.352	-0.740	-0.835
Traditional	-0.224	-0.912	-0.149	-0.788	-0.218	-0.827	-0.102	-0.512
Religious	0.252	0.780	0.037	0.149	0.049	0.134	-0.145	-0.521
Orthodox	0.329	0.510	0.410	0.990	-0.002	-0.003	0.607	1.423
Men	-0.437	-2.096	-0.779	-4.912	-0.528	-2.322	-0.715	-4.217
Age	0.001	0.090	-0.024	-2.483	0.006	0.450	-0.019	-1.843
High school	0.710	2.551	0.743	2.718	0.707	2.327	0.584	2.051
University	0.593	1.739	0.938	3.246	0.573	1.560	0.701	2.321
Economic status	0.050	0.231	0.426	2.603	0.073	0.317	0.410	2.345
Europe-America	-0.152	-0.445	0.081	0.356	0.012	0.032	0.109	0.443
Former USSR	-0.966	-1.580	-0.378	-1.298	-0.601	-0.927	-0.467	-1.459
Asia-Africa	-0.135	-0.390	-0.178	-0.761	0.115	0.295	-0.172	-0.679
Big city	0.326	1.537	0.273	1.724	0.259	1.111	0.326	1.905
Marital status	0.249	0.947	-0.249	-1.453	0.177	0.623	-0.321	-1.741
Maccabi	-0.669	-1.648	-0.088	-0.458	-0.548	-1.237	0.083	0.412
Meuhedet	-1.078	-1.482	0.642	2.650	-0.916	-1.252	0.824	3.209
Leumit	0.093	0.252	0.135	0.484	0.231	0.575	0.323	1.106
Chronic health	0.156	1.682	0.079	1.120	0.169	1.762	0.068	0.904
VAS	-0.009	-1.552	-0.009	-2.091	-0.006	-0.951	-0.006	-1.266
Satisfaction with family physicians					-0.150	-2.055	0.064	0.909
Satisfaction with specialists					-0.139	-1.991	-0.131	-2.343
N	1,828		2,303		1,390		1,881	
Pseudo R ²	0.039		0.061		0.051		0.061	

Odds ratios are the exponential of the coefficients. A *t*-value greater than 1.96 (in absolute value) indicates that the parameter is significantly different from zero, i.e., that the odds ratio is significantly different from one.

For example, among university graduates the rate of users increased from 6% in 1993 to 13% in 2000 ($P = 0$). Among those reporting a "very good" economic status, the rate increased from 3% to 11% ($P = 0$). Women increased their use from 7% in 1993 to 13% in 2000 ($P = 0$). Men, who are less intensive users of medical services in general, increased their use from 5 to 6%.

Table 2 presents a multivariate logistic analysis of the probability of consulting a CAM provider (of any type) during the year preceding the survey in 1993 and in 2000. Two models were estimated. Model 1 includes personal characteristics and health state. Model 2 includes levels of overall satisfaction with the family physician and specialists, for which the number of valid cases is markedly lower.

In 1993, the main determinants of the likelihood of consulting a CAM provider were gender, education, sick fund membership, and levels of satisfaction with family physicians and specialists. Men were 35% less likely than otherwise similar women to consult CAM providers. University graduates were 80%, and high school graduates 100% more likely to use CAM than individuals with elementary school education. Model 2 also shows a significant inverse relationship between levels of overall satisfaction with primary and secondary conventional medical care and the propensity to use CAM. We note that neither chronic health state nor health-related quality of life exercised a significant effect on the likelihood to consult a CAM practitioner.

The picture is quite different in 2000. The gender differential

increased, and men were 54% less likely than women to use CAM. The education gradient became clearer: high school graduates were twice, and university graduates 2.5 times more likely than elementary school graduates to approach CAM providers. In 2000, controlling for health state, age became a significant determinant of CAM use, with advanced age being related to lower use. The 2000 use of CAM is heavily influenced by economic status: individuals reporting "very good" or "good" economic status were 53% more likely than poorer individuals to use CAM. Residents of the large Israeli cities were 31% more likely to consult CAM providers than similar persons residing in smaller peripheral localities. Members of the Meuhedet Sick Fund tended to use CAM more than members of any other sick fund. Controlling for health state and satisfaction with conventional primary and secondary care, they were 1.9 times more likely to consult a CAM provider than members of the Clalit Health Services. Chronic health and health-related quality of life remained insignificant. Finally, overall satisfaction with the family physician was unrelated to the use of CAM, and only overall satisfaction with specialists exerted a negative effect. In a further analysis (not reported for the sake of brevity), it was found for both years that while lower satisfaction in all dimensions of physicians' care (physicians' attitude, length of the visit, availability, information sharing, quality of care and accessibility) was associated with greater use of CAM, dissatisfaction with the time devoted by specialists had the greatest positive effect.

For both years, the set of explanatory variables considered above

Table 3. Temporal changes in CAM use

	1993	2000
Panel A: Types of CAM consulted		
Homeopathy	30%	29%
Chiropractic	7%	13%
Acupuncture	21%	30%
Reflexology	21%	22%
Naturopathy	20%	17%
Biofeedback	4%	3%
$P = 0.026$		
Note: The sum is greater than 100%; 3% in 1993, and 13% in 2000 consulted more than one type.		
Other types appearing in small numbers were: healers, osteopaths, rabbis, and unspecified.		
Panel B: Medical problems leading to the consultations		
Digestion and urinary	10%	11%
Tension	2%	4%
Joints and limbs	13%	15%
Back pain	20%	29%
Respiratory	5%	12%
Dizziness	2%	1%
Migraine	2%	3%
Cancer	4%	1%
Blood (hypertension, cholesterol)	8%	13%
Bones	1%	2%
Smoking	0%	1%
General health	33%	8%
Total	100%	100%
$P = 0.001$		
Panel C: Reasons for seeking non-conventional care		
Did not want to take many medicines	10%	29%
Did not want invasive care	6%	6%
Disappointment with conventional medicine	40%	27%
There was no other solution	15%	11%
Wanted to experience	6%	7%
It was readily available (provider is a friend, family)	1%	5%
Past good experience	0%	4%
Other	12%	9%
Unspecified	12%	2%
Total	100%	100%
$P = 0$		

explains 3–6% of the variation in use of non-conventional medicine, meaning that most of the variation in use is either random or determined by other factors.

Types of CAM used

Table 3, panel A, presents the 1993 and 2000 market shares of the various types of providers. Homeopaths and acupuncturists account for about a third of the market each. Chiropractors enjoyed the sharpest increase in market share from 7% in 1993 to 13% in 2000.

Medical problems leading to CAM consultations

The most frequent problem for which persons tended to consult CAM practitioners in 1993 was a general health complaint such as tiredness, lack of energy, nutrition, etc. [Table 3, panel B]. In 2000,

Table 4. Temporal changes in CAM use (II)

	1993	2000
Panel A: Who referred you to CAM?		
A physician	6%	10%
A friend	38%	29%
Family member	9%	13%
Self-initiated	44%	46%
Unknown	3%	2%
Total	100%	100%
$P = 0$		
Panel B: Did the treatment help?		
Yes	58%	73%
No	19%	23%
Not sure	23%	4%
Total	100%	100%
$P = 0$		
Panel C: Satisfaction with non-conventional medicine		
1 = very low satisfaction	11%	9%
2	3%	2%
3	2%	2%
4	11%	9%
5	8%	15%
6	11%	20%
7 = very high satisfaction	38%	39%
Unknown	17%	4%
Total	100%	100%
$P = 0.348$		

back pain (20% in 1993 and 29% in 2000) became the leading problem. We noted a dramatic increase in the share of respiratory problems (e.g., asthma), hypertension, and high levels of cholesterol and triglycerides among the total problems leading to consultations.

Reasons for seeking non-conventional care

In 1993 the most frequent stated reason for consulting a CAM provider was a general disappointment with conventional medicine (40% in 1993 and 27% in 2000) [Table 3, panel C]. In 2000 the main reason for doing so was the reservation regarding conventional medicine technologies such as drugs (29% in 2000, 10% in 1993) and invasive procedures (6% in both years). Fifteen percent in 1993 and 11% in 2000 stated that they had consulted a CAM provider simply because there was no other solution for their problem.

Referral patterns

As shown in Table 4, panel A, most of the consultations were initiated by the individuals or following a recommendation from a friend, acquaintance or family member. However, the percentage of users referred by a physician increased significantly from 6% in 1993 to 10% in 2000.

Non-conventional and conventional medicine interactions

As discussed earlier, low satisfaction with conventional medicine providers – both family physicians and specialists in 1993 and specialists only in 2000 – led to a higher propensity to use CAM.

However, this substitutability does not appear when comparing the use of conventional medicine between users and non-users of CAM. In fact, users of CAM tend to use conventional medicine more frequently than non-users. In 1993, 49% of CAM non-users had no contact with their family physicians during the month before the interview, 30% had one visit, 12% had 2 visits and 9% had 3 visits or more. Among the users, 34% had no contact, 38% had one visit, 18% had 2 visits, and 13% had 3 visits or more ($P = 0$). With regard to specialists, 72% of the non-users and 66% of the users had no contact during the previous month; 19% among the non-users and 25% among the users had 1 visit, and 9% of the users and the non-users had 2 or more visits ($P = 0$). No comparable data were available for 2000. For both years pooled together, among non-users of CAM 91% saw their family physicians and 70% saw a specialist during the previous 2 years, as compared to 96% and 81% respectively of users ($P = 0$). The positive association between the use of conventional and CAM remains after controlling for health state.

Among CAM users, 57% in 1993 and 50% in 2000 stated that the provider was a MD, while 21% in 1993 and 11% in 2000 were not sure if the provider held an MD degree. When adjusted for "not sure," 72% in 1993 and 56% in 2000 consulted a practitioner who held a MD diploma ($P = 0.03$).

More than a third (34–36%) of CAM users in both years received conventional medical treatment for the same problem concurrently.

Perceived efficacy of the treatment and satisfaction

In 1993, 58% of those who used CAM reported that the treatment relieved their ailment (Table 4, panel B). In 2000 that proportion increased to 73%. At the same time, 23% in 1993 and only 4% in 2000 were "not sure" about the efficacy of the treatment.

Interestingly, the "success rate" was not uniform across medical problems. For the 2 years combined, the highest rate was found among users with respiratory problems (83%) and digestion and urinary problems (80%). The lowest rates were found for limb pains (65%) and among users who sought help for hypertension and for high cholesterol and triglyceride levels (59%). Across providers, 78–80% of the users of homeopaths, chiropractors and reflexologists reported that the treatment relieved their problems. Relief was reported by 74% of naturopath users and only 68% of acupuncturist users. Note, however, that no control for either severity of the problem or other personal characteristics was taken.

Panel C in Table 4 presents the levels of satisfaction with CAM in 1993 and 2000. The distributions are quite similar. However, adjusting for missing cases, 46% in 1993 reported very high satisfaction (score = 7) as compared to 39% in 2000. However, in 1993, 19% reported low satisfaction (scores 1–3) compared to 13% in 2000. For comparison, in the entire survey population 48–49% reported very high satisfaction with their family physician and 37–38% with their specialists

Expenditure on CAM

Since CAM was not included in the package of benefits offered by the sick funds in 1993 or in the 2000 package of benefits defined by the 1995 National Health Insurance Law, most of the costs of care

were out-of-pocket. However, in 2000 CAM was offered at lower (than market price) rates to supplementary insurance holders (see below).

Unfortunately, only 70% of the users were able to report usable out-of-pocket expenditure figures. Taking both years together, the mean yearly expenditure on CAM among users was 1,151 shekels (2000 prices), or about \$300 adjusted for purchasing power (US\$ purchasing power parity). The expenditure distribution shows that 25% spent up to 210 shekels. The median was 500 shekels; 75% spent up to 1,200 shekels, and 90% spent up to 2,500 shekels. That expenditure was the highest among patients of chiropractors (1,490 shekels) and the lowest among users of homeopath services (707 shekels). Based on these figures, total expenditure on CAM in 2000 made out-of-pocket by the entire urban Jewish population aged 45–75 amounted to 133.2 million shekels, or US\$ purchasing power parity 35.1 million.

Over the years, there was an 11% drop in real mean expenditure, from 1,250 in 1993 to 1,110 shekels in 2000. We cannot say whether that drop reflects a decrease in the number of sessions, in price per session, or the supplemental insurance reimbursement.

CAM use is positively related to income: not only are wealthy individuals more likely to consult CAM providers, as reported in Table 2, but users in "very good" or "good" economic status spent 1,121 shekels on average, while users in "fair" or "poor" economic status spent on average 801 shekels.

Discussion

The main conclusion of the present study is that the use of complementary and alternative medicine by the Israeli urban Jewish population aged 45–75 was in its infancy in 1993, but by the year 2000 had entered the mainstream of healthcare. The first indication of that growth is its greater prevalence, from 6% having a contact with a CAM provider during the previous year in the 1993 survey to 10% in 2000 – a mean yearly increase rate of 8%.

The mainstreaming of CAM in Israel is indicated also by its changing consumption patterns. Firstly, in 2000 a clear and strong socioeconomic gradient in the use of CAM emerged, as well as differences between dwellers of major cities and peripheral localities, across sick funds, and by gender and age. Such differentials were also found by other international studies [5,22,23]. Secondly, in the eyes of the public, CAM was no longer a collection of esoteric and fuzzy techniques suitable for unspecified, suspiciously psychosomatic general health complaints (treated by primary physicians), but a much more specific skill that is able to treat a large array of specific medical problems ranging from digestion and musculoskeletal system ailments to respiratory and blood-related disorders (treated by specialists). For example, the 30% of users who needed care for lower back pain (and the increased market share of chiropractors) actually followed the recommendations of conventional medicine that spinal manipulations are an effective treatment for certain patients with lower back pain [30]. Third, a general disappointment with conventional medicine led the way to the specific and well-defined reason of not wanting to take many (conventional) medicines, recorded in the 2000 survey.

Naturally, the temporal increase in the use of CAM discussed above is related to the increased availability (supply) of practitioners. Although the present study cannot present data on supply, this is indicated also by the fivefold increase in the share of those who mentioned, as the reason for using CAM, that a friend or a family member is him/herself a practitioner (1% in 1993 to 5% in 2000).

In both surveys the actual use of conventional and CAM, holding health state constant, tended to be complementary rather than substitutes. However, less satisfied patients, particularly regarding the duration of visits to specialists, were more likely to consult CAM practitioners. There was a sharp increase in the prevalence of non-MD practitioners. At the same time however, there was an increase in patients referred to CAM by MDs, particularly among elderly and low education groups.

CAM was not included in the basic package of benefits provided by the Israeli sick funds in 1993 or in 2000 under the National Health Insurance system. However, the supplemental insurance policies, which were approved by the Ministry of Health in 1998 following the enactment of the National Health Insurance Law in 1995, typically included some price reductions on CAM offered by the sick funds. Unfortunately, the present survey did not ask about supplementary insurance ownership, but ownership rates in the particular population studied are expected to be over 60%. Naturally, the high ownership rate of supplemental insurance offered by the sick funds has been an important cause – and result – of the increased use of CAM, and of its mainstreaming in Israel during the last decade.

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