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Complementary and alternative healthcare use by participants in the PACE trial of treatments for chronic fatigue syndrome

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Abstract

Background

Chronic Fatigue Syndrome (CFS) is characterised by persistent fatigue, disability and a range of other symptoms. The PACE trial was randomised to compare four non-pharmacological treatments for patients with CFS in secondary care clinics. The aims of this sub study were to describe the use of complementary and alternative medicine (CAM) in the trial sample and to test whether CAM use correlated with an improved outcome.

Method

CAM use was recorded at baseline and 52 weeks. Logistic and multiple regression models explored relationships between CAM use and both patient characteristics and trial outcomes.

Results

At baseline, 450/640 (70 %) of participants used any sort of CAM; 199/640 (31%) participants were seeing a CAM practitioner and 410/640 (64%) were taking a CAM medication. At 52 weeks, those using any CAM fell to 379/589 (64 %). Independent predictors of CAM use at baseline were female gender, local ME group membership, prior duration of CFS and treatment preference. At 52 weeks, the associated variables were being female, local ME group membership, and not being randomised to the preferred trial arm. There were no significant associations between any CAM use and fatigue at either baseline or 52 weeks. CAM use at baseline was associated with a mean (CI) difference of 4.10 (1.28, 6.91; p=0.024) increased SF36 physical function score at 52 weeks, which did not reach the threshold for a clinically important difference.

Conclusion

CAM use is common in patients with CFS. It was not associated with any clinically important trial outcomes.

Introduction

Chronic Fatigue Syndrome (CFS) is a relatively common condition affecting between 0.4% and 2.6% of the population, depending on the definition used [1]. Some regard Myalgic Encephalomyelitis (ME) as a separate disorder from CFS, whereas others think they are synonymous [2]. The condition is characterised by debilitating, persistent fatigue, muscle pain and other symptoms such as headaches, poor sleep and post-exertion malaise; sore throat and tender lymph nodes are reported by the minority of patients with CFS [3]. CFS affects all races and socio-economic groups.

CFS is a clinical diagnosis based on history and a comprehensive range of investigations which exclude other causes of fatigue. It involves comparing the patient's symptoms and history with diagnostic criteria; the Oxford criteria [4], the International 1994 criteria [3], and the National Institute for Health and Care Excellence (NICE) criteria [2].

Complementary and alternative medicine (CAM) is difficult to define and both culturally and contextually specific. Its use may be a surrogate for empowerment and self-help [5,6]. Patients with chronic illnesses utilise CAM [7] for diverse reasons including engagement in one's own health, positive expectations of treatment and the need for hope [5,7]. CAM treatments used by those with CFS include massage therapy, relaxation, meditation, homoeopathy, acupuncture, naturopathy and herbal therapies [7,8,9,10]. Two systematic reviews of CAM for CFS found most studies were small, had poor methodology and produced inconclusive evidence [7,10]. CAM use generally is greater among women, higher socio-demographic groups, those with more education and in long-term chronic illness [11,12]. Both health characteristics and demographic factors contribute independently to CAM use (Bishop et al 2010) with over 90% of people with fibromyalgia using CAM [13,14].

The PACE trial was a randomised controlled trial comparing four treatments for CFS; standard medical care alone (SMC), and SMC supplemented by one of three therapies: cognitive behavioural therapy (CBT), graded exercise therapy (GET), adaptive pacing therapy (APT)[15,16]. All CAM treatments in this study were funded outside the study.

This paper presents an in-depth analysis of the CAM data from the PACE trial dataset. The PACE trial represents the largest prospective dataset that has meticulously recorded the details of CAM in this particular population over 12 months. Our objectives in analysing this data were to understand the following: 1) the use of CAM at baseline and over the course of the trial; 2) the demographic and clinical associations with CAM use cross-sectionally post randomisation and prospectively at follow up; 3) the associations with treatment outcomes.

Methods

The methods are described elsewhere [15,16]. The trial recruited 640 participants from six UK CFS clinics, allocated randomly to four groups with a final follow-up 52 weeks after randomization. The treatments are described in detail elsewhere [15,16,17].

Entry criteria and primary outcomes

The trial included participants meeting the Oxford criteria for CFS [4], which require fatigue as the principal symptom, accompanied by significant disability and without an exclusionary medical or psychiatric diagnosis. All participants were assessed by specialist doctors to exclude other medical diagnoses [18]. Research assessors used the structured clinical interview for the Diagnostic and Statistical Manual of Mental Disorders IV to diagnose exclusionary/comorbid psychiatric disorders [19]. Other eligibility criteria consisted of a binary score of 6/11 or more on the Chalder fatigue

questionnaire [20] and a score of 65/100 or less on the short form-36 physical function subscale [21]. The study excluded patients below 18 years, unable to attend hospital appointments, unable to speak and read English, had medical needs that made participation inappropriate, or who had previously received a trial treatment for CFS at a PACE clinic [15]. Primary outcomes were self-rated fatigue and physical function.

Use and definition of Complementary and Alternative Medicine

Participants were asked about their use of CAM at baseline and at 52 weeks after randomisation using the Client Services Receipt Inventory (CSRI) [22]. CAM was defined as therapies delivered by CAM practitioners as well as 'over the counter' CAM medications or supplements purchased with or without therapist consultation. Regarding CAM, the CSRI only recorded acupuncture, osteopathy, homeopathy and herbal medicine and "other"; this was decided a priori based on the common treatments used in the UK. The "other" category was examined as part of the original trial analysis and any CAM therapies (such as reflexology, chiropractic and shiatsu) were grouped with acupuncture, osteopathy, homeopathy and herbal medicine to create a relevant single variable pertaining to the use of CAM practitioners [23]. We categorised each medication listed in the database as CAM or non-CAM. The CAM medications were multiple and included the general categories of herbal, homeopathic or nutritional medication. We could not analyse the CAM medication data by category because these were frequently used together and it would have been far too complex to extract and analyse variable dose and duration data. If a participant left the CSRI CAM usage sections blank we assumed no CAM use.

Variable selection

A priori we selected measures that we considered might be associated with CAM use as suggested by the published literature. These included sex (female), age, duration of CFS, presence of fibromyalgia, Hospital Anxiety Depression Scale (HADS), Patient Health Questionnaire (PHQ-15), chronic disease self-efficacy measure, Cognitive Behavioural Responses Questionnaire (CBRQ), membership of either a local or national CFS groups and treatment preference [15]. We then analysed the data based on CAM practitioner use, CAM medication use or any CAM use that involved either or both of these two categories.

Statistical analysis

CAM use was treated as binary at both baseline and 52 weeks. Logistic regression was used to explore demographic and clinical associations with CAM use (practitioner CAM use, CAM medication use and any CAM use) at both baseline and 52 Variables which were significantly associated with CAM use at the 5% level were retained in the multivariable model. All analyses controlled for clustering by recruiting centre.

Associations between any CAM use, CAM practitioner use and CAM medication use, and the primary trial outcomes – fatigue measured using the Chalder Fatigue questionnaire and physical functioning using the SF-36 physical function sub-scale over the study period - were explored using a mixed linear regression model with Kenward-Rogers adjusted standard errors. Covariates included trial arm, baseline outcome score, time since randomisation and stratification factors as per the original PACE trial primary analysis [16]. To account for potential confounding, results are also presented, controlling for the variables associated with CAM use in each time-period. To allow for the possibility of a type I error due to multiple testing, we also calculated the adjusted p-values using the Bonferroni correction. The statistical methods of the PACE trial are described elsewhere [15,16]; all analysis were carried out in Stata V13.

Results

CAM use in the study population

We had CAM data for 585/640 (92%) at both baseline and 52 weeks of study participants. At baseline, 450/640 (70 %) of participants were using some kind of CAM. Of these, 199/640 (31%) participants were seeing a CAM practitioner and 410/640 (64%) were taking a CAM medication. The most commonly used CAM practitioners were acupuncturists and homeopaths.

Associations with CAM use at baseline

The associations between patient characteristics at baseline and *any CAM use* at baseline are set out in Table I. In univariate analysis, longer duration of CFS, female sex, local but not national ME group membership, a preference for the GET treatment group, and no clear preference about treatment group were associated with *any CAM use*. In multivariate analysis, these all remained significant apart from the GET treatment preference. Women were more likely to use any CAM. Members of a local ME group were much more likely to use any CAM and participants who had no treatment preference were significantly less likely to use CAM. People were more likely to use CAM if they had the illness for longer.

The variables showing a univariate association with *CAM medication use* were similar to those associated with any CAM use: longer duration of CFS, female sex and membership of a local ME group. These all remained significant in the multivariate analysis. Women were more likely to use CAM medications and members of local ME groups were much more likely to use CAM medications. Duration of CFS was also associated with CAM use.

For *CAM practitioner use*, the variables associated in univariate analysis were female sex, having fibromyalgia, membership of a local ME group and a preference for treatment allocation other than SMC. In the multivariate analysis, women were) more likely to use a CAM practitioner as were participants with fibromyalgia. Membership of a local ME group was associated with seeing a CAM practitioner. Those who had a preference of SMC were more likely to see a CAM practitioner than those with any other treatment preference, including those who were undecided.

CAM use at 52 weeks

At 52 weeks, the use of any CAM was 372/585 (64 %). Of these 160/579 (28%) were seeing a CAM practitioner and 319/585 (55%) were taking a CAM medication. Table II sets out the pattern of CAM use between baseline and 52 weeks. Of those who contributed both baseline and follow up data, 326/584 (55%) used *any CAM* throughout the 52-week period. 87 participants (15%) stopped using any CAM between baseline and 52 weeks and 46 people (8%) started using any CAM during the study period.

CAM use varied by trial arm at 52 weeks (Table III). The lowest CAM use (any CAM: CAM practitioner or CAM medications) was observed in the CBT arm The highest CAM medication and any CAM use was observed in the APT group and the highest CAM practitioner use was in the SMC . Compared to the SMC group there was no statistically significant difference in CAM use by patients in each of the 3 trial arms at 52 weeks after controlling for baseline CAM use, stratification factors and clustering by centre.

Associations with CAM use at 52 weeks

The associations between patient characteristics at 52 weeks and CAM use at 52 weeks are presented in Table IV. The variables associated with *any CAM use* in the univariate analysis were being female, higher PHQ-15 score, lower self-efficacy score, membership of a local ME group, and not being randomised to the trial arm for which the participant expressed a preference, prior to randomisation. In the multivariate analysis, the variables that remained significantly associated with *any CAM use* were being female, membership of a local ME group and not having been randomised to the preferred trial arm. Women were more likely to *use any CAM,* as were those who belonged to a local ME group. Participants who did not receive their preferred treatment were more likely to use *any CAM.*

Variables associated with *CAM medication use* at 52 weeks in the univariate analysis were more symptoms as indicated by a higher PHQ-15 score, longer duration of CFS, female sex, membership of a local ME group and the participant not receiving their preferred treatment. In the multivariate analysis, longer duration of CFS and local ME group membership were no longer significantly associated. Women were more likely to use CAM medications, as were participants not receiving their preferred treatment. The PHQ-15 score was significantly greater in CAM medication users.

In the univariate analysis, the variables associated with *CAM practitioner use* were a higher PHQ-15 score, a lower self-efficacy score, female sex, catastrophizing beliefs, membership of a local ME group, being in the CBT trial arm and not receiving the preferred treatment. However, most of these were not significant in the multivariate analysis. The significant variables in making CAM use more likely were, being female, membership of a local ME group, receipt of CBT, and not receiving the preferred treatment.

Associations with PACE trial main outcome measures

Table V presents the results of the mixed linear regression model controlling for baseline outcome values, time, stratification variables, trial arm and the potential confounding effects of the variables found in the multivariate analyses above to be associated with CAM use at either baseline or 52 weeks. There were no significant associations between any CAM use, CAM medication use, or CAM practitioner use at either baseline or 52 weeks and the primary outcome of fatigue measured by the Chalder Fatigue Scale over the study period. Any CAM use and CAM medication use at baseline only were significantly associated with better physical function as indicated by a higher SF-36 scores (4.0 points higher for any CAM use and 4.1 points higher for CAM medication use) at 52 weeks.

Once these figures were adjusted using the Bonferroni correction to allow for multiple testing, only the relationship between CAM medication use at baseline and the SF-36 score at 52 weeks remained statistically significant (p=0.025). However, the trial defined a clinically useful difference in the SF-36 as at least 8 points [16], suggesting that although this result was statistically significant, it was not a clinically important difference. There was no association between CAM use at 52 weeks and SF-36.

Including the variables related to CAM use in the model did not alter the relationship found between the original treatment arms and the outcomes. There was also no evidence of any interaction between any of the CAM variables over the course of the trial and the treatment arms.

Discussion

Use of complementary or alternative medicine was common in this sample of patients with CFS, with the majority either using a CAM medication or visiting a CAM practitioner both at baseline and at follow-up. There was a small reduction in use of CAM over the 12 months of the trial. As with CAM use in people with cancer [24], some people stopped using CAM during the study while others

started. Acupuncturists and homeopaths were the two most common practitioners seen. The main associations of CAM use consistently found at trial entry and exit were being female and local ME group membership. Preferring specialist medical care and not receiving a preferred treatment were associated with CAM use at baseline and 52 weeks respectively.

Women with CFS were more likely to be using CAM than men. In general, women are more likely to use CAM than men. CAM use is also consistently greater in those suffering from chronic illness [11,12,14]. It is interesting that those patients who were members of local ME self-help groups were more likely to use CAM. This may be explained by the opportunity that CFS patients have to exchange information about treatments that could be helpful, although we are aware that these groups do not endorse specific treatment approaches. CAM use may be perceived 'as effective and worth a try' by local group members.

The associations with treatment preferences might be related to the processes of patient empowerment and enablement that have been observed among people with cancer who use CAM [6]. This is consistent with our understanding of patient advocacy concerning treatment choice and its likely beneficial effects. It was notable that there were either significant or nearly significant reductions in CAM use at follow up in those participants who received a supplementary therapy in contrast to those who did not. This suggests that CAM use may be a response to not receiving any alternative help, being an intervention that patients can apply without medical referral or assessment.

Overall CAM use was not associated with any clinically important improvement in CFS despite a substantial proportion of participants using CAM throughout the study. Interestingly the effect of seeing a CAM practitioner on the trial primary outcomes was no greater than simply taking CAM medications. However, we are unable to separate those who just bought their medications over the counter (OTC) from those who had them individually 'prescribed' by a CAM practitioner.

Individualised practitioner delivering CAM may be associated with considerable non-specific treatment effects so the fact that improvement was not associated with practitioner consultations is both surprising and unexpected. Cho et al's systematic review [25] concludes that placebo effects are substantially diminished in patients with CFS. However, many people entering this study were already using CAM so any benefits that may be observed from either CAM medications or the non-specific effects of seeing a CAM practitioner are likely to have already been apparent prior to entry into the trial. The small number of people starting CAM during the study would not be expected to have significantly affected the overall study outcome.

There were a number of limitations in this study, the major one being that this was not a randomised controlled trial of CAM interventions, but was a secondary analysis of the associations of CAM use and CFS outcome. Many people entering this study were already talking CAM and therefore this confounds any definitive conclusions that can be drawn about the effects of CAM in CFS. We only recorded data on a limited number of specific but commonly used practitioner based CAMs; acupuncture, osteopathy, homeopathy, herbal medicine and a miscellaneous 'other' group. This study does not therefore evaluate all CAM use.

The strengths of the study included recording and classifying all CAM medications taken throughout the year of the study. The PACE trial involved a large patient group and we report the first large study of CAM use in this population. The associations we tested included both demographic and illness related factors. Treatment expectations do have a clear impact on outcomes in most chronic conditions although our observations in this study did not specifically explore expectations and beliefs about CAM, only beliefs about the randomised treatments and outcomes.

The potential disadvantages of using CAM include interactions with more orthodox medication, and discouraging engagement in more orthodox therapies. Local ME support groups need to consider the fact that those attending their groups are more likely to use CAM while we have little evidence to support its effective use. This data suggests that those with established CFS are often using CAM and this use was not associated with any clinically useful improvements in CFS from either CAM medication or CAM practitioner consultations. However, give the extent of its use further research into the effects of CAM should be considered in view of the poor quality of the existing evidence. Clinicians managing patients with chronic fatigue syndrome should discuss their CAM use to understand why a particular individual may be using CAM and so that individual is informed that there may be little evidence to support that use. We suggest that these discussions are best considered in a "politically neutral context" as people with CFS may be very attached to their CAM practitioner. By facilitating such communication, the potential concerns involved in becoming over-dependent on ineffective diets or over-expensive medications could be reduced.

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Table I. *Associations with CAM use at baseline*

	OR (95% CI) for any CAM at baseline		**OR (95% CI) for CAM medication at baseline**		**OR (95% CI) for CAM practitioner at baseline**	
	Univariate	Multivariate	Univariate	Multivariate)	Univariate)	Multivariate
PHQ-15 somatic symptom score	1.02 (0.99,1.05)		1.01 (0.97,1.06)		1.04 (0.99,1.10)	
HADS Anxiety score	1.04 (0.99,1.09)		1.03 (0.98,1.08)		1.03 (0.99,1.07)	
HADS Depression score	0.98 (0.93,1.03)		0.98 (0.93,1.03)		1 (0.96,1.03)	
Self-efficacy mean score	1.04 (0.89,1.21)		1.02 (0.88,1.20)		0.95 (0.89,1.03)	
Duration of CFS prior to study	1.06 (1.03,1.1)	1.07 (1.03, 1.11)		1.07 (1.03, 1.12)	1.02 (0.99,1.05)	
Female	2.23 (1.41,3.51)	2.46 (1.36, 4.47)	1.75 (1.07,2.86)	1.99 (1.13, 3.50)	1.87 (1.16,3.01)	2.03 (1.20, 3.43)
Age	1.01 (0.99,1.03)		1.02 (0.99,1.04)		1 .00 (0.99,1.01)	
Fibromyalgia	1.05 (0.8,1.37)		0.95 (0.72,1.25)		1.59 (1.27,2.01)	2.01 (1.50, 2.70)
Catastrophizing scale score	0.99 (0.94,1.04)		1.00 (0.95,1.05)		1.00 (0.97,1.03)	
Membership of local ME group	4.31 (2.26,8.21); p<0.001	4.21 (1.92, .9.21); p<0.001	3.97 (2.08,7.6); p<0.001	3.72 (1.83, 7.56); p<0.001	2.17 (1.57,3.01)	1.91 (1.21, 3.02)
Membership of national ME group	1.31 (0.81,2.14); p=0.273		1.28 (0.84,1.95); p=0.257		1 .00 (0.74,1.36)	
Treatment preference						
• SMC/no preference	1.00	1.00	1.00	1.00	1.00	1.00
• CBT/APT/GET	1.57 (1.09, 2.26)	1.45 (0.97, 2.16)	1.58 (1.23, 2.03)	1.40 (1.08, 1.81)	1.53 (1.04, 2.27)	1.57 (1.01, 2.45)

Table II. CAM use over the 52 week study period

	Any CAM use	CAM medication use	CAM practitioner use
CAM used throughout the 52 week trial period	326/585 (55.82%)	276/585 (47.26%)	107/579 (18.48%)
CAM used at baseline only	88/585 (14.90%)	100/585 (17.12%)	70/579 (12.09%)
CAM used at 52 weeks only	46/585 (7.88%)	43/585 (7.36%)	53/579 (9.15%)
CAM not used during the trial	125/585 (21.40%)	166/585 (28.42%)	349/579 (60.28%)

Table III. CAM use by trial arm over the 52 week study period

	SMC	CBT	APT	GET
Any CAM use				
52 weeks	98/150 (65.33%)	87/145 (60.00%)	99/147 (67.35%)	88/142 (61.97%)
Odds ratio of any CAM use at 52 weeks compared to SMC group*	1.00	0.73 (0.42, 1.27; p=0.258)	0.92 (0.52, 1.52; p=0.774)	0.77 (0.44, 1.35; p=0.357)
CAM practitioner use				
52 weeks	47/148 (31.76%)	32/145 (22.07%)	42/146 (28.77%)	39/140 (27.86%)
Odds ratio of any CAM use at 52 weeks compared to SMC group*	1.00	0.63 (0.35, 1.15; p=0.135)	0.87 (0.49, 1.54; p=0.623)	0.72 (0.40, 1.30; p=0.279)
CAM medication use				
52 weeks	83/150 (55.33%)	74/145 (51.03%)	85/148 (57.43%)	77/142 (54.23%)
Odds ratio of any CAM use at 52 weeks compared to SMC group*	1.00	0.72 (0.42, 1.25; p=0.246)	0.84 (0.48, 1.46; p=0.537)	0.79 (0.45, 1.37; p=0.394)

***controlling for baseline CAM use, stratification factors and clustering by centre**

Table IV. *Associations with CAM use at 52 weeks*

	***OR (95% CI) for any CAM* at 52 weeks**		***OR (95% CI) for* CAM medication at 52 weeks**		***OR (95% CI) for* CAM practitioner at 52 weeks**	
	Univariate	Multivariate	Univariate	Multivariate	Univariate	Multivariate
PHQ-15 somatic symptom score	1.04 (1.01,1.07)	1.04 (0.99, 1.08)	1.04 (1.01,1.06)	1.03 (1.01, 1.06)	1.04 (1.01, 1.06)	1.02 (1.00, 1.05)
HADS Anxiety score	1.02 (0.99,1.05)		1.01 (0.98,1.05)		1.00 (0.97,1.03)	
HADS Depression score	1.00 (0.96,1.04)		0.99 (0.96,1.03)		1.02 (0.99,1.06)	
Self-efficacy mean score	0.93 (0.87,1.00)	1.02 (0.91, 1.14)	0.96 (0.9,1.03)		0.90 (0.82,0.98)	0.95 (0.83, 1.10)
Duration of CFS prior to study	1.05 (1.00,1.10)		1.05 (1,1.11)	1.05 (1.00, 1.11)	1.00 (0.98,1.03)	
Female	2.07 (1.52,2.84)	2.30 (1.73, 3.06)	1.76 (1.1,2.82)	1.88 (1.22, 2.91)	1.97 (1.12,3.46)	2.28 (1.13, 4.62)
Age	1.01 (0.99,1.03)		1.01 (0.99,1.03)		1.01 (1,1.02)	
Fibromyalgia	1.03 (0.76,1.4)		1.00 (0.65,1.54)		1.01 (0.69,1.47)	
Catastrophising scale score (CBRQ)	1.03 (0.97,1.09)		1.00 (0.95,1.06)		1.04 (1.01,1.07)	0.98 (0.90, 1.07)
Membership of local ME group	3.01 (1.45,6.27)	2.85 (1.40, 5.78); p=0.004	2.25 (1.02,5.00)	2.10 (0.89, 4.95)	2.68 (1.97,3.65)	2.58 (1.65, 4.05)
Membership of national ME group	1.16 (0.77,1.74)		1.15 (0.71,1.88)		0.96 (0.58,1.57)	
Trial arm						
• CBT	0.80 (0.42,1.49)		0.84 (0.47,1.50)		0.61 (0.43,0.85)	0.65 (0.45, 0.94)
• APT	1.09 (0.66,1.83)		1.09 (0.66,1.79)		0.87 (0.54,1.39)	
• SMC	1.00		1.00		1.00	
• GET	0.86 (0.6,1.25)		0.96 (0.57,1.61)		0.83 (0.43,1.61)	
Was not randomised to preferred treatment group	1.87 (1.31, 2.67)	1.78 (1.26, 2.53)	1.81 (1.36, 2.40)	1.76 (1.38, 2.26)	1.64 (1.27, 2.13)	1.49 (1.06, 2.09)

Table V. *Association between CAM use and the trial primary outcomes over the 52 week trial period*

	Mean difference in Chalder fatigue scale (95% CI; p-value)	Mean difference in SF-36 (95% CI; p-value)
Any CAM use at baseline	-0.35 (-1.31, 0.60; p=0.467)	3.96 (1.01, 6.92; p=0.009) *
Any CAM use at 52 weeks	-0.09 (-0.99, 0.81; p=0.847)	2.12 (-0.69, 4.92; p=0.140)
CAM medication use at baseline	-0.42 (-1.33, 0.48; p=0.362)	4.10 (1.28, 6.91; p=0.004) *
CAM medication use at 52 weeks	0.17 (-0.67, 1.02; p=0.688)	1.04 (-1.61, 3.69; p=0.441)
CAM practitioner use at baseline	0.18 (-0.78, 1.13; p=0.718)	-0.65 (-3.63, 2.33; p=0.669)
CAM practitioner use at 52 weeks	-0.05 (-1.02, 0.92; p=0.919)	1.14 (-1.92, 4.20; p=0.466)

*To allow for the possibility of Type I error, the p-values, where significant, were adjusted using the Bonferroni correction. The p-value for *Any CAM use* at baseline becomes p=0.054 and the p-value for CAM medication use at baseline becomes p=0.024

HIGHLIGHTS

- CAM use is very common in patients with chronic fatigue syndrome (CFS) involving approximately two thirds of patients.
- Its use is not associated with any important clinical outcomes.
- The main predictors of CAM use are female sex and local ME group membership.
- These observations are important for clinicians and should be discussed with CFS patients.