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The use of complementary and alternative medicine by women transitioning through menopause in Germany: Results of a survey of women aged 45—60 years

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Summary
Objectives: To describe prevalence rates of complementary and alternative medicine therapies (CAM) for the relief of menopausal complaints among German women. Furthermore, to investigate the perceived effectiveness of these therapies.
Design: A self-administered questionnaire was sent to 9785 randomly selected women in Germany aged between 45 and 60 years.
Results: A total of 1893 (19.3%) questionnaires have been sent back. The mean age of all participants was 52.6 ± 4.3 years. 81% ($n = 1517$) of the responding women stated that they had experienced menopausal complaints at least once. Symptoms ranged from vasomotor symptoms, including hot flushes and night sweats, in 71.2% of cases, to bladder problems in 42.7%. The average symptom score (MRS II total score, range 1—44) among the respondents was 12.76 ± 9.6. More than half (56%; $n = 1049/1872$) of the responding women had used some form of therapy to alleviate their symptoms at least once. The majority of women undertaking a therapy (64.8%; $n = 679/1049$) had used only CAM interventions (either one or more type of CAM), 14.2% ($n = 149$) had used hormone replacement therapy (HRT) only, while 21.1% ($n = 221/1049$) had tried both CAM and HRT. Popular CAM interventions by the respondents were an alteration of lifestyle (28.7%), St. John's wort (18.3%) and homoeopathy (14.9%). An alteration in lifestyle was rated as the most effective CAM treatment with 84.9% ($n = 457$). Other treatments like hormone yoga (79.2%; $n = 42$), homoeopathy (73.7%; $n = 205$) and TCM (59.1%; $n = 94$) were also perceived to be effective. Phytoestrogens were rated as the most ineffective (45.5%; $n = 50$).

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Conclusion: CAM interventions to alleviate menopausal complaints are popular among German women, with 48.2% ($n = 900/1872$) of respondents reporting having used CAM either alone or in combination with HRT. However, the users rated the effects of CAM differently, with some reporting CAM to be highly effective, while others indicate lower effectiveness. Nevertheless, women with a significantly higher symptom scoring tend to use both CAM and a conventional therapy (HRT).

Introduction

Menopause is characterised by changing levels of oestrogen and progesterone due to the declining function of the ovaries. Oestrogen deficiency often leads to the evolution of menopausal complaints, including hot flushes, vaginal dryness, night sweats and sleep disturbance[1,2]. For decades, Hormone Replacement Therapy (HRT) has been the most effective treatment prescribed for these symptoms. However, the publication of results from prospective studies, including Women's health Initiative (WHI) and HERS, resulted in a controversial discussion regarding the safety of HRT, particularly referring to breast cancer and cardiovascular effects. These findings caused a dramatic decline in the use of HRT in elderly postmenopausal women, although most of the disadvantages were not durable due to statistical reasons[3–5]. Consequently, the interest in 'Complementary and Alternative Medicine' (CAM) including St. John's wort, black cohosh, homoeopathy etc. has increased[5]. Several studies have examined the prevalence of CAM among menopausal women and have reported the application of CAM among more than one third of women[1,6,7]. However, the efficacy of most of the treatments has not been evaluated in placebo-controlled randomised trials. Accordingly, the effectiveness of some CAM products remains questionable[1,8–10].

Thus, the aims of the present study were to determine the prevalence of CAM and the perceived effectiveness in symptom management among German women aged between 45 and 60 years. We sought to detect the most commonly used CAM treatments and perceived effectiveness to conventional treatments like HRT. Furthermore, we aim to examine the associations between severity of symptoms and type of therapy use.

Methods

A self-created, anonymous questionnaire was sent to 9785 women in Germany aged between 45 and 60 years. The addresses were obtained from the ''Schober Group'' address broker. Their system contained a total quantity of 11,619,220 addresses of women in this age group, so a randomised selection was extracted using every 162nd address. As an incentive for a quick reply, we distributed 20 gift-coupons among the first 100 respondents and an additional 50 gift-coupons among all respondents. The questionnaire was sent via mail at the end of December 2011, asking the women to return the questionnaire in an addressed pre-stamped envelope by January 10, 2012 at the latest. The 12-item questionnaire began with information about age, educational status and area of residence. Furthermore, we asked if the women had ever experienced menopausal symptoms. To assess these menopausal symptoms and their severity, we used the Menopause Rating Scale II (MRS II). The MRS II consists of a list of 11 symptoms, which are evaluated on a scale from 0 to 4 points (0 points = no complaints; 4 points = very severe complaints). The values for the 11 items were added for the total MRS score (range 1—44). Furthermore, women were asked about their use of HRT and CAM products, as well as the perceived effectiveness of each therapy. We defined 'CAM only users' as women who used at least one CAM product (*phytoestrogens*, *St. John's wort*, *chast tree*, *acupuncture*, *traditional Chinese medicine (TCM)*, *hormone-yoga*, *alteration of lifestyle*, *homoeopathy*, *black cohosh*). An alteration of lifestyle was classified as one form of CAM therapy and includes physical exercise.

Statistics

We analysed data using SPSS Statistics version 19.0. The results are represented as *n* (%) and mean ± standard deviation (SD). Distributions for demographic characteristics, menopausal symptoms and type of therapy were determined. To assess associations between type of therapy (CAM/HRT or both) and menopausal complaints, as well as education and age, respectively, the χ^2-test was used. The statistical significance of the differences in mean age and symptom severity score (MRS II total score) across therapy categories was determined by using analysis of variance. A value of $p < 0.05$ was considered statistically significant, and <0.001 was statistically highly significant.

Results

By the end of January 2012, a total of 1893 questionnaires had been received via mail, representing a response rate of 19.3%. 1872 of these were eligible and were included in the analysis. The mean age of all participants was 52.6 ± 4.3 years. A total of 81.7% ($n = 1529$) of the respondents had finished their general certification of secondary education (German *Mittlere Reife*). Of those, 45.1% ($n = 690$) had also passed their German A-levels (German *Abitur)*. 17.0% (318) of the respondents went to secondary modern school (German *Hauptschule*) and only 0.4% ($n = 8$) did not graduate from school or did not go to school at all. A total of 65.3% ($n = 451$) of the women who had passed their A-levels also held a university degree.

Altogether, 81% ($n = 1517$) of the responding women stated that they had experienced menopausal complaints at least once. Of the eleven assessed menopausal symptoms, the highest prevalence rates were reported for vasomotor symptoms (71.2%), sleep disturbances (68.5%), irritability

Table 1 General demographic and health characteristics for the total sample and by therapy used.

	Total sample ($n = 1872$)	CAM ($n = 680$)	HRT ($n = 147$)	CAM & HRT ($n = 222$)	p-value[a]
Age (mean ± SD)	52.6 ± 4.3	52.7 ± 4.0	54.6 ± 4.2	54.3 ± 3.8	$p < 0.001$
45—49	487 (26%)	154 (22.7%)	23 (15.6%)	29 (13%)	
50—52	457 (24.4%)	174 (25.6%)	22 (15%)	41 (18.5%)	$p < 0.001$
53—56	510 (27.2%)	199 (29.3%)	44 (29.9%)	83 (37.4%)	
57—60	410 (21.9%)	148 (21.8%)	57 (38.8%)	68 (30.6%)	
Education					
Secondary modern school	318 (16.9%)	84 (12.4%)	43 (29.3%)	39 (17.6%)	
Secondary school	839 (44.8%)	306 (45.1%)	67 (45.6%)	94 (42.3%)	$p < 0.001$
German A-Levels	239 (12.8%)	104 (15.3%)	10 (6.8%)	28 (12.6%)	
University	451 (24.1%)	179 (26.4%)	25 (17%)	60 (27%)	
MRS-Total Score (mean ± SD)	12.76 ± 9.6	16.2 ± 7.8	16.3 ± 8.0	20.23 ± 7.6	$p < 0.001$

[a] Overall χ^2 test for comparisons between mean-age, age-groups, education and MRS-Total score.

(62.7%) and physical and mental exhaustion (62.5%). The lowest prevalence estimate was stated for bladder problems (42.7%). Overall, somatic symptoms including vasomotor symptoms, joint and muscular discomfort, heart discomfort and sleep problems were stated most often (80.1%; $n = 1500/1872$). More than half (56%; $n = 1049$) of the responding women had used some form of therapy to alleviate their symptoms at least once. Among these women, the majority (64.8%; $n = 679/1049$) reported the application of at least one type of CAM (only CAM), 14.2% ($n = 149$) had been under treatment of HRT only (only HRT), whilst 21.1% ($n = 221/1049$) had tried both CAM and HRT. Approximately 41% ($n = 277/678$) of the CAM-users had used one CAM intervention only, while 29.6% ($n = 201/678$) used two different forms and 28.8% (195/678) had tried three or more. Amongst all of the HRT-users ($n = 369$), the majority had tried several forms of therapy (60.2%), whereas just 39.8% used HRT alone ($p < 0.001$). Table 1 shows the different therapy forms (only CAM, only HRT and both CAM & HRT) by demographic characteristics and severity of menopausal symptoms (MRS II Total score). On average, CAM users were younger than HRT users (52.7 ± 4.0 vs. 54.6 ± 4.2; $p < 0.001$). More CAM users started therapy at a younger age (45—49) than HRT users ($p < 0.001$). Compared to CAM users, HRT users had a lower education level than CAM users. The highest educational degree of 29.3% of the HRT patients was graduation from secondary modern school, while the rate among CAM users was 12.4% ($p < 0.001$). 41.6% of CAM users absolved German A-Levels or a higher degree, compared to 23.6% of the HRT users. Significant differences could be observed between the average symptom scores (MRS II total score) and the therapy forms. The MRS II-total score was significantly higher among women who used both CAM and HRT (MRS-total score 20.23 ± 7.61 vs. 16.2 ± 7.8 for CAM alone, vs. 16.3 ± 8.0 for HRT alone) than among women in other categories of therapy use. Fig. 1 presents the frequency and efficacy of each CAM therapy, characterised by the responding women. An alteration of lifestyle (e.g. physical exercise) was the most widely used CAM intervention (28.7%; $n = 538/1872$). More than 80% (84.9%; $n = 457$) of the users assessed this therapy as useful. St. John's wort, as well as homoeopathy, were also applied quite often (18.3%; $n = 343$ and 14.9%; $n = 278$, respectively). Among the applicants of these therapies, most found them useful (St. John' wort: 51.9% and homoeopathy: 73.7%). Less commonly applied therapies, such as acupuncture and hormone-yoga (4.5%; $n = 85$ and 2.8%; $n = 53$) were deemed 'effective' by more than half of the women (acupuncture: 58.8% and hormone-yoga: 79.2%).

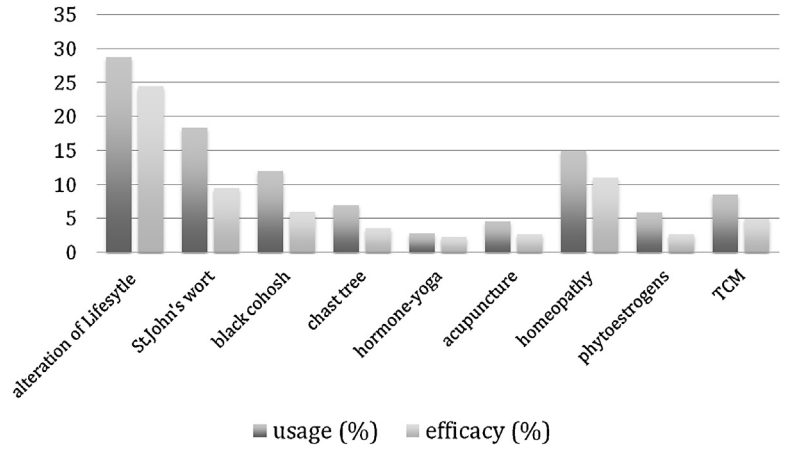

Figure 1 CAM therapy forms usage and their perceived effectiveness. Yes, in response to the questions 'Which of the listed treatments did you apply?' and 'Was it effective?'.

Table 2 Treatment forms and the rated effectiveness of each treatment across four categories of severity of symptoms.

	Total sample ($n = 1865$)	No, little 0—4	MRS-Total mild 5—8	Score moderate 9—16	Severe 17+
Total sample ($n = 1865$)		453	231	501	671
HRT	369	13	28	105	221
Effective	312 (84.5%)	12 (92.3%)	26 (92.9%)	91 (86.7%)	182 (82.3%)
Alteration of lifestyle	538	17	72	188	259
Effective	257 (84.9)	14 (82.3%)	65 (90.3%)	172 (91.5%)	202 (78%)
St. John's worth	343	4	25	95	217
Effective	178 (51.9%)	4 (100%)	17 (68%)	57 (60%)	99 (45.6%)
Homoeopathy	278	8	31	89	148
Effective	205 (73.7%)	7 (87.5%)	30 (96.8%)	72 (80.9%)	94 (63.5%)
Phyto-oestrogens	110	3	6	30	69
Effective	50 (45.5%)	1 (33.3%)	3 (50%)	15 (50%)	30 (43.4%)
Black-cohosh	225	5	18	67	133
Useful	112 (49.7%)	2 (40%)	12 (66.7%)	46 (68.7%)	51 (38.3%)
Chast tree	129	3	11	39	74
Effective	66 (51.9%)	3 (100%)	8 (72.7%)	26 (66.7%)	28 (37.8%)
TCM	159	4	17	41	96
Effective	94 (59.1%)	3 (75%)	12 (70.6%)	27 (65.9%)	51 (53.1%)
Acupuncture	85	2	4	20	59
Effective	50 (58.8%)	1 (50%)	3 (75%)	15 (75%)	59 (52.5%)
Hormone-yoga	53	3	7	14	28
Effective	42 (79.2%)	2 (66.7%)	7 (100%)	11 (78.6%)	21 (75%)

Phyto-oestrogens and black cohosh were regarded as the most ineffective, with rates of 45.5% and 49.7%, respectively, indicating success in only half of the cases. Overall, therapies were rated less effective if women had worse complaints (Table 2). For women with severe complaints (MRS total score >17), HRT was rated as the most effective treatment (82.3%). An alteration of lifestyle was also evaluated as effective by 78% of the women with severe complaints, but the efficacy of an alteration of lifestyle and St. John's wort as well as homoeopathy dropped by nearly 15% if women had 'severe complaints' in comparison to 'moderate symptoms'. However, the efficacy of HRT dropped by 4.4% only by women with 'severe symptoms' compared to women with 'moderate symptoms'.

Discussion

Our results showed that almost half of our sample (48.2%) had used at least one form of CAM, either alone or in combination with HRT, to alleviate their menopausal complaints. Women used CAM five times more often than HRT as treatment against symptoms. Comparable results could be observed in some previous studies, but the CAM prevalence rates ranged widely between 33.5% and 82.5%[6–8,11,12]. However, a comparison between CAM prevalence rates is difficult and must be observed carefully, as study designs vary. Furthermore, there is no general agreement about which therapies and remedies could be embraced under the term 'complementary and alternative medicine (CAM)', which also could have biased the prevalence rates[11].

Although 'complementary and alternative treatment' is a consistent subject of current discussions in the literature, there is still no convincing evidence about the benefits on menopause for most of the CAM treatments[17]. Nevertheless, some randomised placebo controlled trials reported about the beneficial effects of black cohosh in combination with St. John's wort. Similarly, physical exercise was perceived as beneficial to menopausal symptoms[13–15]. Interestingly, an alteration of lifestyle, which includes physical activity and dietary change, as well as St. John's wort, were the most commonly used CAM interventions in our survey. Apparently, women tend to use CAM interventions more often, which are supported by some scientific evidence. Contrarily, women in our survey also perceived homoeopathy as very useful (73.7%) in managing their symptoms, but evidence from systematic reviews and placebo-controlled trials supporting its effectiveness, are very limited[1,19].

Women with very severe complaints tended to use both CAM and HRT in our survey; more than one third (32.5%; $n = 221$) of the CAM users had also used HRT. However, we are not able to determine whether HRT was used sequentially or concurrently with CAM. This must be considered when examining the effectiveness of each form of therapy. Overall, most CAM interventions in comparison to HRT were rated less useful if women had more severe complaints. Interestingly, CAM-using women had a higher education than HRT-using women in our survey.

Altogether, this survey shows that complementary and alternative medicine plays an important role in symptom management by menopausal women.

Limitations

This study should be interpreted in the context of several limitations. First, as this was a voluntary survey, the responding women could be biased. Respondents may be more health-conscious and more interested in CAM and HRT, and thus more likely to respond. Therefore, the true

prevalence of CAM and HRT could be overestimated in our survey. Furthermore, the response rate of 19.3% is low in comparison to other surveys and could, therefore, introduce selection bias. However, our sample size of 1893 responders is one of the largest samples compared to similar surveys[6,7,18]. Moreover, the incidence of somatic, psychological and sexual complaints measured by the MRS-rating scale is comparable to data from an earlier survey among German women, which showed similar MRS-rating scores[16]. Therefore, we could state that the earlier survey and our survey might be comparable and not influenced by the fact that women with more or less severe symptoms are more likely to answer the questionnaire. One strength of our study is that we questioned women from all parts of Germany. There is a slightly shift of approximately 10% to a higher educational level. Since the address broker has no information about the educational level we cannot differentiate if the basic population has a higher educational level or the respondents rate is higher in this group. Therefore we give the data splitted by educational level. Although aware of those possible biases, we believe that our survey is representative of German women.

Conflict of interests

The authors declare no conflict of interest.

References

1. Borrelli F, Ernst E. Alternative and complementary therapies for the menopause. *Maturitas* 2010;**66**:333—43.
2. Sherman S. Defining the menopausal transition. *Am J Med* 2005;**118**(12):3—7.
3. Rossouw JE, Anderson GL, Prentice RL, LaCorix AL, Kooperberg C, Stefanick ML, et al., Writing Group for the Women's Health Initiative Investigators. Risks and benefits of oestrogen plus progestin in healthy postmenopausal women: principal results from the Women's Health Initiative randomised controlled trial. *JAMA* 2002;**288**:321—33.
4. Hoffmann M, Hammar M, Kjellgren KI, Astrand LL, Brynhildsen J. Changes in women's attitudes towards and use of hormone replacement therapy after HERS and WHI. *Maturitas* 2005;**52**(1):11—7.
5. Cheema D, Coomarasamy A, El-Toukhy T. Non-hormonal therapy of post-menopausal vasomotor symptoms: a structured evidence-based review. *Arch Gynecol Obstet* 2007;**276**(5):463—9.
6. Cardini F, Lesi G, Lombardo F, van der Sluijs C, MSCG — Menopause Survey Collaborative Group. The use of Complementary and Alternative Medicine by women experiencing menopausal symptoms in Bologna. *BMC Womens Health* 2010;**10**:7, http://dx.doi.org/10.1186/1472-6874-10-7.
7. van der Sluijs CP, Bensoussan A, Liyanage L, Shah S. Women's health during mid-life survey: the use of complementary and alternative medicine by symptomatic women transitioning through menopause in Sydney. *Menopause* 2007;**14**(May—June (3) Pt 1):397—403.
8. Brett KM, Kennan NL. Complementary and alternative medicine use among midlife women for reasons including menopause in the United States: 2002. *Menopause* 2007;**14**(2):300—7.
9. Kronenbergh F, Fugh-Berman A. Complementary and alternative medicine for menopausal symptoms: a review of randomised, controlled trials. *Adv Intern Med* 2002;**137**(10):805—13.
10. Borrelli F, Ernst E. Black cohosh (*Cimicifuga racemosa*) for menopausal symptoms: a systematic review of its efficacy. *Pharmacol Res* 2008;**58**:8—14.
11. Keenan NL, Mark S, Fugh-Berman A, Browne D, Kaczmarczyk J, Hunter C. Severity of menopausal symptoms and use of both conventional and complementary/alternative therapies. *Menopause* 2003;**10**:507—15.
12. Gollschewski S, Anderson D, Skerman H, Lyons-Wall P. The use of complementary and alternative medications by menopausal women in South East Queensland. *Womens Health Issues* 2004;**14**:165—71.
13. Chung DJ, Kim HY, Park KH, Jeong KA, Lee YI, Hur SE, et al. Black cohosh and St. John's wort (GYNO-Plus) for climacteric symptoms. *Yonsei Med J* 2007;**48**(April (2)):289—94.
14. Uebelhack R, Blohmer JU, Graubaum HJ, Busch R, Gruenwald J, Wernecke KD. Black cohosh and St. John's wort for climacteric complaints: a randomized trial. *Obstet Gynecol* 2006;**107**(February (2) Pt 1):247—55.
15. Daley AJ, Stokes-Lampard HJ, Macarthur C. Exercise to reduce vasomotor and other menopausal symptoms: a review. *Maturitas* 2009;**63**(July (3)):176—80, http://dx.doi.org/10.1016/j.maturitas.2009.02.004.
16. Heineman LAJ, DoMinh T, Strelow F, Gerbsch S, Schnitker J, Schneider HPG. The Menopause Rating Scale (MRS) as outcome measure for hormone treatment? A validation study. *Health Qual Life Outcomes* 2004;**2**:67.
17. Nedrow A, Miller J, Walker M, Nygren P, Huffman LH, Nelson HD. Complementary and alternative therapies for the management of menopause-related symptoms: a systematic evidence review. *Arch Intern Med* 2006;**166**(July (14)):1453—65.
18. Daley A, MacArthur C, McManus R, Stokes-Lampard H, Wilson S, Roalfe A, et al. Factors associated with the use of complementary medicine and non-pharmacological interventions in symptomatic menopausal women. *Climacteric* 2006;**9**(October (5)):336—46.
19. Ernst E. A systematic review of systematic reviews of homeopathy. *Br J Clin Pharmacol* 2002;**54**:577—82.