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## Knowledge of menopause-associated symptoms and non-hormonal strategies: an Italian survey on social media platforms

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### ABSTRACT

**Objective:** We aimed to provide data collected in women who were active on social media platforms about menopause-associated symptoms and their impact, as well as resources, preferences and needs, with a specific focus on non-hormonal strategies.

**Study Design:** A cross-sectional observational study conducted via an anonymous online survey involving patient associations (namely vulvodinia, endometriosis, premature menopause, and natural menopause) in Italy.

**Main outcomes measures:** Selected items of a comprehensive questionnaire co-developed by a multidisciplinary team of experts in gynaecology, psychology, and representatives from patient advocacy groups.

**Results:** A sample of 473 Italian postmenopausal women (median age: 56 yrs; range 31-76 yrs), including 231 (48.8%) subjects with chronic conditions (48 with a past history of vulvodinia, 21 of endometriosis, and 15 of oncological diseases) completed the survey. There was a good understanding of the typical menopausal symptoms (90.3% hot flushes, 83.7% vaginal dryness). Weight gain was very commonly attributed to menopause (86.9%) as the most challenging symptom (59.4%). A negative view of menopause was reported by 30.6%, with an impact on relationships (26.4%), social life, and work (9.5% for both). The majority (96.8%) identified lifestyle changes as an effective non-pharmacological intervention for managing menopausal symptoms. Additionally, 26.2% reported that the use of nutraceuticals under medical advice could be effective. Psychological support was positively experienced by 19% and considered beneficial by 56.8%, in spite of direct experience.

**Conclusions:** Providing evidence-based education on menopause is mandatory to foster individualised care. Primary prevention with lifestyle modification and some non-pharmacological interventions seems well-received.

### KEYWORDS

Menopause; online survey; symptoms; resources; preferences; non-hormonal treatments

## Introduction

Menopause is having a moment in the public arena and new generations of women look for information about this natural stage of life that may be eventually associated with distressing symptoms and health risk factors [1]. Globally, women may have different views of the menopause, ranging from “an inevitable part of aging” to an “undesired time” [2]. In five European

countries (France, Germany, Italy, Spain, UK) there was an overall acceptance of menopause as a natural process, but in France, Germany and the UK the associated burden was highly perceived in comparison with Italy and Spain [3]. However, Italian women were the ones who experienced more moderate-severe vasomotor symptoms (VMS) (52%) [3]. In addition, presence of symptoms was associated with a high rate of consultations with health care providers (HCPs) in

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Italy [4]. Another survey conducted in Italian women aged 45–65 years showed that global consciousness and understanding of menopause were common, but half of the study sample did not seek any help [5]. When responders received help from HCPs, they were moderately satisfied with the level of expertise [5]. Herbal medications were the most common remedies (63.3%) and menopause hormone therapy (MHT) was used by 7.6% of the study sample [5], confirming the highest rate of aversion to MHT (78%) in Italy as compared with France, Germany, Spain, and the UK<sup>3</sup>. Indeed, in a peri- and postmenopausal sample over the age of 45 years surveyed about behaviours, attitudes, and experiences regarding treatment of menopausal symptoms, Italian women declared “hormones were dangerous” in 39% of the cases [6]. That being so, Italian women with menopausal symptoms seemed to use a significant amount of complementary and alternative medicine (CAM) [7]. In addition, they used several over the counter (OTC) lubricants, moisturisers and other natural strategies to treat symptoms associated with vulvovaginal atrophy [8]. The popularity of CAM and life-style changes was confirmed in a recent international study, including a sample of midlife Italian women [9].

It is worth to mention that attitudes of Italian women to request psychological assistance have not been explored yet, despite the effectiveness of behavioural interventions in the management of menopause-associated symptoms has received increased recognition [10,11].

Different behaviours in embracing menopausal experience may be shaped by several socio-cultural variables including the variety of health care systems [4]. The communication on social media is another additional variable in the decision-making about the menopause, with pros and cons influencing the level of knowledge, feeling of support, and confidence in HCPs [12]. Open communication between women and HCPs, as well as the amount of information delivered by other sources, is very important for effective management of menopause that goes far behind medical intervention [13]. By receiving information on the most important topics discussed on social media, HCPs can gain valuable insights into the needs and expectations of women [14]. As highlighted in a real-world, cross-sectional survey including both Italian HCPs and women, gaps in communication often lead to delayed or suboptimal care because of the slight to moderate alignment regarding the impact of the most common menopausal symptoms [15].

At present, we are not aware of published data deriving from Italian surveys conducted on social media that

may offer novel perspectives about the general experience of menopause and its management. In addition, there is a lack of knowledge regarding attitudes of women with previous reproductive conditions, such as endometriosis and vulvodynia [16,17], that may affect well-being and quality of life even in the menopausal stage.

That being so, the present study aims to provide data collected in Italian women who are active on social media platforms about menopause-associated symptoms and their impact, as well as resources, preferences and needs, with a specific focus on non-hormonal strategies.

## Methods

This was a cross-sectional observational study conducted via an anonymous online survey between May 20 and June 24, 2024. The survey was disseminated through social media platforms and involved patient associations (namely vulvodynia, endometriosis, premature menopause, and natural menopause) in Italy. We explained the aim of the survey reporting the standard definition of menopause. We included those women who self-reported being menopausal, whereas we excluded those who self-identified as premenopausal or were not willing to fill-in the survey. Informed consent was secured from all participants by filling in the standard link for privacy and cookie policy. Women who have filled in the survey did not receive any compensation. Since the survey has been conducted by associations of patients and subjects could not be identified, either directly or through identifiers, there was no need for Ethical committee approval according to Italian legislation (legislative decree 211/03, regulation UE 536/2014).

The present survey was based on a comprehensive questionnaire co-developed by a multidisciplinary team of experts in gynaecology, psychology, and representatives from patient advocacy groups. The questionnaire was structured into five key sections: demographics, knowledge of menopause, symptom experience, resource utilisation, and needs (available in Italian as a supplementary material). In some cases, multiple responses were allowed.

All data were analysed using STATA software (version 36). Descriptive statistics were used to summarise the characteristics of participants and their survey responses, including medians, and interquartile ranges for continuous variables, and proportions for categorical variables.

Inferential analyses (Chi-square test, Fisher’s exact test and T-Test) were conducted to identify significant associations with a statistical significance set to 95%.

Only participants with complete responses across each section of the survey were included in the analysis.

## Results

### *Sociodemographic characteristics of the survey sample*

Out of 808 respondents, we finally included 473 Italian postmenopausal women who had completed the survey (58.5%) (Table 1). The median age of our survey sample was 56 years (range: 31–76 years). Most respondents were married or cohabitating (77.4%) and had at least a diploma-level education (92.8%). Regarding employment, 56% were salaried workers. Geographically, 57.1% resided in northern Italy. We excluded 114 responders (14.1%) who were premenopausal, 130 responders who were not sure (16.1%), 41 responders (5.1%) who were menopausal but declined the survey and 50 responders (6.2%) who did not complete the survey.

**Table 1.** Characteristics of the survey sample.

Sociodemographic Variables		N=473
Median age (years) and 95% confidence interval		56 [55.5, 56.6]
Marital status (N, %)	Married/cohabiting	366, 77.4%
	Single	51, 10.8%
	Divorced	50, 10.6%
	Widowed	6, 1.2%
Educational level (N, %)	High school diploma	250, 52.8%
	University/postgraduate education	189, 40.0%
	None of the above	34, 7.2%
Employment (N, %)	Employee	265, 56.0%
	Self-employed/freelancer	124, 17.8%
	None of the above	84, 26.2%
Regional distribution (N, %)	North	270, 57.1%
	Central Italy	96, 20.3%
	South	62, 13.1%
	Islands	45, 9.5%

Approximately 48.8% ( $N=231$ ) reported having a wide range of chronic conditions. Among them, 48 women reported a past history of vulvodynia, 21 of endometriosis, and 15 of oncological diseases with menopause inducing associated therapies. Sociodemographic variables did not show any significant differences in women with and without chronic conditions.

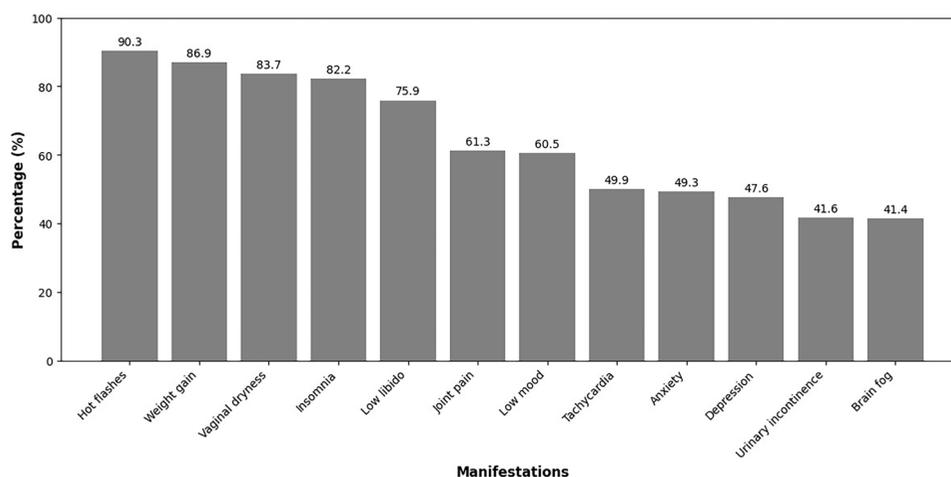
### *Knowledge about menopause*

Participants demonstrated a good understanding of the typical menopausal symptoms, with 90.3% identifying hot flushes and 83.7% vaginal dryness as hallmark manifestations of this life stage (Figure 1). Weight gain was very commonly attributed to menopause (86.9%).

When interviewed about the prevalence of premature/early menopause, 56.2% of respondents gave the correct answer (range of 5–10%), while 24.3% overestimated the prevalence at 15–20% and 19.5% underestimated it at 1–3%.

The majority (96.8%) of the survey sample identified lifestyle changes as an effective non-pharmacological intervention for managing menopausal symptoms. Additionally, 26.2% reported that the use of nutraceuticals under medical advice may be effective.

Participants with higher levels of education were more likely to correctly identify typical manifestations ( $\chi^2=7.7$ ,  $p=0.02$ ) and effective non-pharmacological intervention ( $\chi^2=9.2$ ,  $p=0.001$ ). Older participants were more inclined to include less commonly recognised symptoms, such as brain fog ( $t=-3.35$ ,  $p=0.001$ ).



**Figure 1.** Level of knowledge of the typical manifestations of menopause expressed in percentages in the study sample ( $N=473$ ). Multiple choices were allowed.

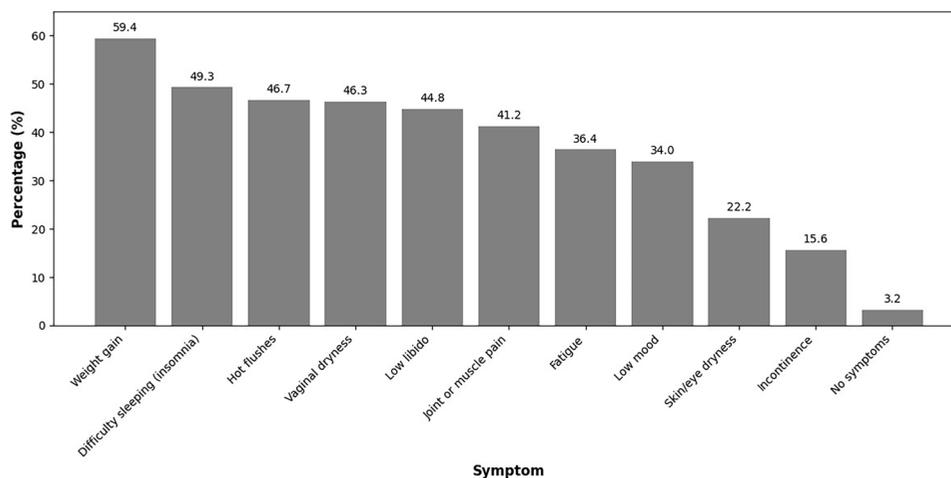
### Distressing menopausal symptoms

The most challenging symptom reported by respondents was weight gain, indicated by 59.4% of participants. Sleep difficulties (49.3%), hot flushes (46.7%) and vaginal dryness (46.3%) were also commonly cited. Less frequent symptoms included skin or ocular dryness (22.2%), while only 3.2% of respondents reported no symptoms (Figure 2).

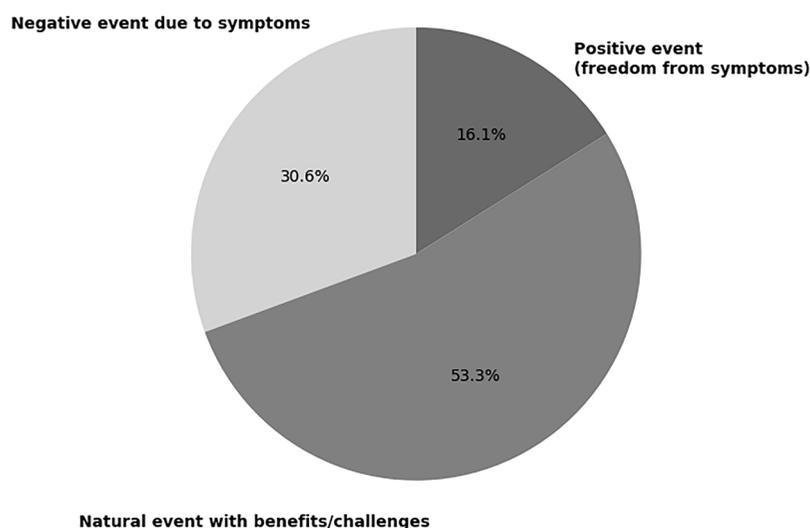
### Impact of menopause-related symptoms

Figure 3 showed how respondents perceived menopause as an event in their life. Half of the survey sample (53.3%) viewed menopause as a natural event with both benefits and challenges, whereas a negative view was reported by 30.6%. When asked about “how menopause-related symptoms affect

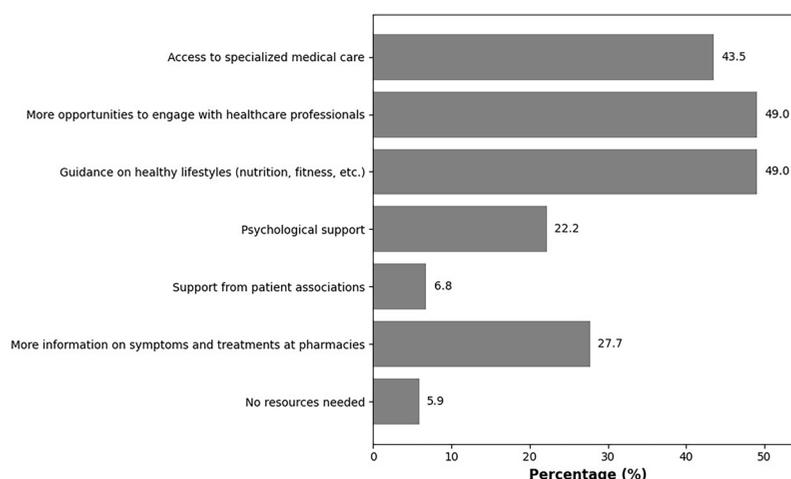
their relationships”, 38% of menopausal women reported minor influences, whereas 26.4% indicated a significant negative impact and described the symptoms as highly disruptive. As far as social life was concerned, 41.4% of respondents reported that menopause-related symptoms had no effect, while 9.5% indicated a profound negative impact. Similarly, 42.7% of women experienced no effect of menopause-related symptoms on their work, while 9.5% reported a severe impact. Of note, women experiencing symptoms such as vaginal dryness or a decline in sexual desire were significantly more likely to face challenges in their relationships ( $\chi^2 > 12$ ,  $p < 0.001$ , for both). Women with higher education levels were more likely to perceive menopause as a natural or positive event ( $\chi^2 = 15.5$ ,  $p < 0.001$ ).



**Figure 2.** Prevalence of distressing symptoms during menopause expressed in percentages in the study sample ( $N=473$ ). Multiple choices were allowed.



**Figure 3.** Perception of menopause as an event expressed in percentages in the study sample ( $N=473$ ).



**Figure 4.** Type of resources desired by respondents expressed in percentages in the study sample ( $N=473$ ). Multiple choices were allowed.

### Resources

Menopausal women wished to have access to specialised medical care (43.5%) and more opportunities to engage with HCPs (49.0%). Lifestyle guidance from nutrition or fitness experts was also highly sought after (49.0%), while psychological support was requested by 22.2%. A small proportion indicated they wished to receive support from patient associations (6.8%) or did not need any resources (5.9%) (Figure 4).

Among the respondents, 41.2% believed that apps, forums, and websites could be useful, even though they had never used them, and 24.7% reported a positive experience with these resources. Conversely, 9.5% expressed scepticism or a negative perception.

The majority of respondents (63.2%) reported positive experiences with physical activity, while 28.5% believed in its usefulness without having tried it. Respondents recognised the potential positive value of dietary supplements, with 35.5% reporting personal benefits and 31.1% expressing belief in their usefulness despite no direct experience. About 16.9% were undecided, and 16.5% expressed scepticism or negative feelings.

Age was positively associated with the wish of receiving more information about symptoms and treatments, with older women significantly more likely to request additional information about menopausal symptoms and treatment options ( $t=2.4$ ,  $p$ -value  $<0.02$ ).

### Benefits of dietary supplements

The survey results highlighted the perceived benefits of dietary supplements for managing menopause-related symptoms. Participants reported a wide range of

**Table 2.** Perceived benefits of dietary supplements in menopause management.

Benefits	Number of Responses	Percentage (%)
Alleviating physical symptoms	290	61.3
Hormonal support	123	26.0
Improvement in bone health	159	33.6
Weight regulation	142	30.0
Improvement in mood	143	30.2
Improvement in cardiovascular health	68	14.4
Improvement in cognitive disturbances	51	10.8
No benefits	59	12.5

advantages and the most frequently mentioned was the ability to alleviate physical symptoms (61.3%). Additional benefits included hormonal support (26.0%) and improvement in bone health (33.6%). Table 2 reported detailed distribution of responses.

Perception of "no benefits" from dietary supplements was significantly associated with regional groupings ( $\chi^2=13.1$ ,  $p$ -value  $<0.005$ ). Indeed, women from different geographic areas displayed varying levels of scepticism or unmet expectations regarding dietary supplements. Across all regions, the most anticipated benefit was relief of physical symptoms, cited by 53% to 63% of respondents, but women residing in the Southern region were the most sceptical (24%) about usefulness of dietary supplements, even though they believed dietary supplements can improve bone health (42%) and regulate body weight (34%). In the Northern region, women displayed a broader optimism, with relatively high expectations across most categories, including hormonal support (30%) and mood improvement (31%). By contrast, in the Islands and Central regions responders had the lowest confidence in the ability of supplements to address cognitive issues (7% and 8% respectively) and cardiovascular health (4% and 10% respectively).

In addition, education level was a key factor influencing the perception of dietary supplements. Women with higher education levels were more likely to recognise the benefits of dietary supplements for instance, to improve bone health ( $\chi^2=11.2$ ,  $p$ -value  $<0.004$ ).

### Support for psychological well-being

A positive personal experience with psychological support was reported by 19%, whereas over half of the study sample (56.5%) responded it might be beneficial, without any direct experience. A minority (8.5%) was sceptical or negative about its usefulness. The survey also explored the perceived or experienced benefits of psychological support in managing menopause-related challenges. The most frequently reported benefit was improvement in self-esteem/body acceptance (59.4% of participants) followed by management of anxiety/stress (48.6%) and physical symptoms (30.4%). A small percentage (7.6%) reported no benefit from psychological support (Table 3).

Notable correlations between the perceived benefits of psychological support and various socio-demographic factors and resources emerged. Older women were more likely to recognise psychological support as particularly effective in managing anxiety/stress ( $t=-3.52$ ,  $p$ -value  $<0.001$ ) and improving insomnia ( $t=-2.15$ ,  $p$ -value  $<0.04$ ). On the other hand, younger women emphasised the role of psychological support in enhancing interpersonal relationships ( $t=-2.31$ ,  $p$ -value  $<0.03$ ).

### Dialogue with HCPs and social networks

When asked whether they had discussed their menopausal experiences with HCPs, 59.8% of participants reported having talked to a doctor about their symptoms. An additional 8.0% had consulted other HCPs, while 32.1% had not yet engaged in such conversations.

Women who consulted a doctor about their menopausal symptoms were more likely to report

experiencing vaginal dryness and hot flushes ( $p=0.03$ , for both). In terms of perceived benefits, women who had engaged in discussions with a doctor were more likely to believe in the efficacy of dietary supplements for improving cognitive symptoms ( $p=0.05$ ).

The survey also assessed the openness of participants in discussing menopause within their social networks. Nearly half (48.6%) of them reported sharing their experiences with friends, and 38.7% spoke with their partner. Only 1.9% used social media or online communities to share information about their own menopausal experience, while 10.8% did not share any information due to the personal nature of the topic.

Of note, those responders who refrained from sharing their experiences with others reported fewer social impacts of menopause ( $p=0.004$ ).

### Other relevant findings in postmenopausal women reporting chronic conditions

Women previously diagnosed with vulvodynia reported significantly more symptoms like vaginal dryness ( $\chi^2=32.7$ ,  $p<0.001$ ), incontinence ( $\chi^2=72.0$ ,  $p<0.001$ ), and weight gain ( $\chi^2=10.9$ ,  $p=0.001$ ). Menopausal women with vulvodynia also showed an increased interest in accessing specialised medical care ( $\chi^2=4.1$ ,  $p<0.05$ ). In addition, they significantly reported a perceived benefit of dietary supplements for alleviating physical symptoms ( $\chi^2=5.9$ ,  $p<0.02$ ).

Women with a positive history of endometriosis were significantly more likely to discuss menopausal symptoms with HCPs ( $\chi^2=10.2$ ,  $p<0.002$ ) and expressed a higher need for support from patient associations ( $\chi^2=8.5$ ,  $p=0.003$ ). Interestingly, they were the most open sharing menopausal experiences with others, not necessarily HCPs ( $\chi^2=6.6$ ,  $p$ -value  $<0.04$ ).

For women being treated for oncological conditions, no significant findings were found, likely due to the small number of respondents. Also, other heterogeneous chronic conditions were analysed and did not display any significant trend.

**Table 3.** Perceived or experienced benefits of psychological support.

Benefits	Number of responses	Percentage (%)
Improvement in self-esteem and body acceptance	281	59.4
Management of anxiety and stress	230	48.6
Management of physical symptoms	144	30.4
Improvement in couple relationships	147	31.1
Improvement in insomnia	105	22.2
Improvement in interpersonal relationships	91	19.2
Not perceived benefit	36	7.6

## Discussion

Valuable insights into the experiences of Italian women with menopause were gained by the present on-line survey conducted through social media platforms. In particular, our data highlighted the popularity of dietary supplements and the importance of psychological support, pointing to the role of communication with HCPs, friends and partners.

The survey confirmed that women were aware of the most prevalent menopausal symptoms, such as vasomotor symptoms and vaginal dryness [18]. However, in line with previous data [3,19], weight gain was reported as the most challenging manifestation supporting the need for comprehensive care of women's health at menopause, which should also include the management of body weight excess [20]. The overemphasis on the role of menopause and not age in gaining weight might be the result of misinformation and points to the need of providing evidence-based guidance on healthy nutrition at midlife rather than promoting miracle diets supported by very little science [21]. In our sample, responders valued lifestyle guidance, including nutrition and exercise, to overcome this inevitable stage of their life, which is shaped by multidimensional variables [22]. The 2025 IMS White Paper recognised life-style medicine as the first-line treatment in menopausal women and aimed to inform HCPs with the best level of evidence [23]. This might translate into appropriate counselling into life-style adjustments to improve quality of life and future health [23].

Regardless the effects on several components of well-being, around half of the survey sample viewed menopause as a natural event in line with previous reports in Italian women, which documented also a high rate of aversion to MHT [3,5]. Such attitudes and beliefs might be socio-culturally rooted [22] but also significantly influenced by social media quality of information, a lesson learned from the impact of the Women's Health Initiative Study on MHT initiation and discontinuation [24]. Of note, our data showed that there was a significant interest in dietary supplements, with a majority of Italian respondents perceiving them as beneficial, in particular for alleviating physical symptoms and improving bone health. The large popularity of the nutraceutical approach to menopausal complaints has been reviewed pointing to the user-friendly concept that women usually prefer in embracing menopause as a natural stage in their life [25]. This was evident regardless more clinical studies are needed to support effectiveness and safety of many of these products [25]. Interestingly, responders from Italian Southern regions or with lower educational levels - both characteristics been associated with less health utilisation and literacy - were more sceptical, further reinforcing the importance of social influences in the attitude to menopause and its management [22]. On the other hand, a sub-set of menopausal women, such as those who had long suffered from vulvodynia, reported to have

gained significant benefits by using dietary supplements for alleviating physical symptoms, likely because this group of women is used to complementary medicine in the attempt to relieve chronic pain [26].

Our results emphasised the multifaceted impact of symptoms on relational and psychosocial aspects, corroborating research data on the importance of addressing ramifications of menopause, both sexually and emotionally, that might be refractory to pharmacological treatments [27,28]. Of note, the effectiveness of psychological support in managing mood and sleep disorders was more reported by older menopausal women, whereas younger reported it was more useful to manage interpersonal aspects. Menopausal women reported also an impact of distressing symptoms on the professional domain suggesting the urgent need to recognise menopause as an appropriate issue in the working place [29]. Collectively, these results are in line with the empowerment model for managing menopause [30] and confirm the importance of including psycho-sexual counselling and cognitive-behavioural therapies in the process of care in Italy.

Overall, Italian menopausal women who were active on social media platforms showed a satisfactory health literacy as compared to a similar more detailed international survey [31]. However, there were many menopausal women who did not engage into a discussion with HCPs and share their experiences with significant others, missing an opportunity to manage symptoms and prevent risk factors and associated-diseases. For instance, in a European survey including Italian women, those who have discussed vaginal dryness and other genitourinary symptoms with a HCP were at least twice as likely to use an effective treatment to relieve the condition as compared to women who did not [32]. On the one hand, menopause health education seemed to demonstrate an improvement in both quality of life and symptom control [33] and, on the other hand, group consultations for menopause could represent an empowering strategy to reinforce self-management and lifestyle interventions [34]. According to a group of UK-based HCPs with a special interest in the menopause, an increased awareness via social media has driven an improvement in menopause care [35]. That being so, it is likely that future generations of menopausal women will gain a strong benefits from education strategies on a large scale [36]. Enhancing professional training and public health campaigns can bridge gaps in knowledge, ensuring that all women feel informed and supported during menopause. In

Italy, interest for menopause health is growing in the medical arena [37] and in the social media in general, especially following the Covid-19 pandemic [38], even though at present we lack scientific data on the relevance of such source of information for midlife women's health. Our survey data collected mostly from patient associations indicated that Italian women were active to gain information, but only few of them were prepared to openly discuss their menopausal experiences on social media. Whether this might be related to the high rate of underlying chronic conditions in our sample has to be determined. There is, indeed, a strong need for further larger studies to fully understand the potential of social media to boost awareness and support.

This study has several limitations. Self-reported data may introduce recall and social desirability bias. The cross-sectional design limits causal inferences, and the online distribution may have led to selection bias, over-representing digitally literate participants. Findings are specific to an Italian population and may not be generalised to other cultural contexts. Certain subgroups, such as those in rural areas, may be underrepresented. Despite these limitations, our study offers valuable insights into Italian menopausal experiences and needs, and highlights the intricate connections between symptoms, psychological needs, and resource use. Future research should focus on the long-term benefits of care models that include targeted interventions and improved communication, not only in the clinical consultation. Educational sections for the public providing evidence-based choices in menopause medicine are at the forefront of the agenda of many local and international scientific societies and may contribute to building communities of fully informed new generations of women.

In conclusion, the present study emphasises the importance of providing evidence-based education to foster individualised care in Italy. Primary prevention with lifestyle modification and some non-pharmacological interventions seems well-received in our survey sample and deserves further consideration in powered studies.

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## Ethical approval

The survey was conducted by patient associations and the subjects could not be identified, either directly or through

identifiers. Therefore, the study is considered Institutional Review Board-exempt.

## Guarantor

REN

## Author contributions

Conceptualisation, REN, NO, TV; methodology, SC, ID, SD, VM, LP, AP, MP, TV; writing—original draft preparation, FT; writing—review and editing, REN, FT; supervision, REN, TV. All authors have read and agreed to the published version of the manuscript.

## Disclosure statement

REN has on-going relationship with Abbott, Astellas, Bayer HealthCare AG, Besins Healthcare, Biocodex, Exeltis, Fidia, Gedeon Richter, Merck & Co, Novo Nordisk, Organon & Co, Shionogi Limited, Theramex, Viatrix, and Vichy Laboratories. Other authors declare no conflict of interest.

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