Characteristics of post-menopausal women with genitourinary syndrome of menopause: Implications for vulvovaginal atrophy diagnosis and treatment selection.

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Abstract

Background

Vulvovaginal atrophy (VVA), also known as genitourinary syndrome of menopause, exerts a negative impact on the sexuality, health and quality of life of post-menopausal women. A better understanding of post-menopausal women's profiles as defined by their attitude and behaviours in relation to their VVA symptoms may improve public health policies and will allow appropriate targeting of public health campaigns. These improvements may help women of middle and advanced age recover and maintain their quality of life.

In this study, we analysed the attitudes of post-menopausal women, aged 45–74 years, with VVA symptoms from five European countries, with the aim of identifying profile markers to improve healthcare strategies.

Methods

Two consecutive cross-sectional studies were conducted in five European countries (the UK, France, Spain, Germany and Italy). An initial exploratory study ($n = 69$) was based on interviews and then an analytical study ($n = 749$) was based on online surveys to validate women's profiles by means of a multi-level approach.

Results

We identified eight profiles: self-treater, pragmatic, vivacious, reserved, silent sufferer, expressive, stoic and sad. The percentage distribution varied among the countries. The ‘pragmatic’, ‘vivacious’ and ‘expressive’ women were the most proactive, talkative and open with their healthcare professional, whereas women with the ‘reserved’ and ‘stoic’ profiles showed less interest in searching for information about their VVA symptoms, either from their healthcare professional or from other sources.

Conclusions
The attitudes and behaviours of post-menopausal women in relation to their VVA allow for the clear definition of a series of profiles with varying representation across countries. This study reveals the importance of identifying post-menopausal women's profiles to develop interventions to help them overcome barriers to the diagnosis, management and treatment of VVA.

Keywords:
Genitourinary syndrome of menopause, Vulvo-vaginal atrophy, Ageing, Sex, Healthcare professionals, Attitudes and women profiles

Abbreviations:
VVA (vulvovaginal atrophy), HCP (healthcare professional), OTC (over-the-counter), CCEAc (onvergent cluster ensemble analysis)

1. Introduction

Fifty per cent of women experience vulvovaginal atrophy (VVA), also referred to as genitourinary syndrome of menopause [1], during and after the menopause. VVA exerts an impact on their attitudes towards sexuality and healthcare and on their quality of life [[2], [3], [4]]. A better understanding of post-menopausal women's profiles based on their attitudes to their VVA symptoms could improve public health information to prevent the negative views and improve the quality of life of numerous women of middle and advanced age.

VVA is a collection of signs and symptoms associated with a decrease in oestrogen levels and other sex steroids. It involves changes to the labia majora/minora, clitoris, vestibule/introitus, vagina, urethra and bladder. It first appears during the first five years of menopause [[1], [5], [6]]. Most post-menopausal women recognise having experienced VVA symptoms, such as genital dryness, burning, irritation, lack of lubrication, discomfort or pain during intercourse. Some of them also experience urinary symptoms, such as urgency, dysuria and recurrent urinary tract infections [[5], [7]]. All of these bothersome symptoms have an impact on women's sexuality, health and quality of life. In spite of a wide range of effective hormonal and non-hormonal treatments available to relieve VVA symptoms and improve quality of life, many women are unaware of their existence or are unwilling to use them [[6], [8], [9], [10]].

Several studies have investigated the impact of VVA on post-menopausal women in different countries [[4], [11], [12]]. Between 50% and 60% of post-menopausal women with VVA declared that the vulvovaginal discomfort had a negative impact on their sex life or on their relationship with their partner or on their self-esteem or social life [[2], [13]]. A marked association was observed between VVA symptoms and sexual dysfunction, and women declared dryness and dyspareunia to be the main factors in loss of libido and a reduction in the frequency of sexual intercourse. This is in line with previous studies that found a reduction in sexual desire and sexual dysfunction to the main reasons for middle-age women ceasing sexual activity [[14], [15]]. Nevertheless, many post-menopausal women continue to be sexually active in spite of pain. Most of these women declare that sexual activity is important to them and half of them would seek treatment for their discomfort [8]. These studies highlight the lack of VVA diagnosis and treatment, mainly due to the

unwillingness of patients and healthcare professionals (HCPs) to discuss sexual health and because of personal and socio-cultural barriers [[11], [16], [17]]. We agree with those who think that the improvement of the recognition, diagnosis and treatment of VVA requires better communication between patients and HCPs [[4], [11], [18]].

From all these studies, we hypothesise that, in addition to socio-cultural barriers, personality traits could have an impact on post-menopausal women's attitudes and behaviour in relation to their VVA, giving rise to different profiles of women. The identification of these profiles by HCPs may contribute to an improvement in the quality of life of women of middle and advanced age by means of better management and treatment. This might include offering better communication pathways to inform women about VVA, through HCPs and/or the media, and providing greater access to a wide range of treatments to relieve the symptoms of VVA.

In this study, we investigated the responses of post-menopausal women from five European countries, aged 45–74 years, with VVA symptoms to identify profile markers of health attitudes and behaviours. To achieve this, we first explored post-menopausal profiles in a small group of women from different European countries; we subsequently validated our findings in a larger group by means of a multi-level approach.

2. Methods

Two consecutive cross-sectional studies were conducted to assess the profiles of post-menopausal women with VVA. A preliminary study was designed to explore attitudes and behaviours in relation to life and health, to understand their experience of symptoms and how they had managed these. Later, an analytical study was designed with a larger group to validate the observed women's profiles from the preliminary exploratory study.

For the exploratory study, a 60-min interview was conducted with 69 post-menopausal women with VVA in five European countries (the UK, France, Spain, Germany and Italy, with 12–15 interviews per country). All the women had sought over-the-counter (OTC) treatment to relieve their symptoms, but the group included some whose VVA had not been formally diagnosed. The interview contained 74 questions to assess the responders’ attitudes towards their health, menopause and

symptoms, their daily experience with VVA, their quality of life with VVA, their expectations for the future and their socio-demographic characteristics. Some interviews were performed in a central location face to face (usually 6 or 7 women in each country) and the remaining women were interviewed by telephone.

For the analytical study, a 30-min online survey was designed. Survey questions were clustered in categories: demographics (8 questions), attitudes towards general health (5 questions), experience of the menopause and its impact (13 questions), VVA symptoms (17 questions), products used to relieve symptoms (7 questions), talking about symptoms (15 questions), specific items for women who had seen or spoken to a doctor or nurse at any point (13 questions), current relationship status (10 questions), impact of symptoms on sexual relations for those women with a sexual partner(s) (10 questions), product profile (12 questions) and source of VVA information (1 question).

A total of 749 post-menopausal women from five European countries (150 in the UK, 150 in France, 150 in Spain, 150 in Germany and 149 in Italy) participated in this analytical study. The sample size was established based on the fact that VVA affects women to different degrees [5] (for this reason and due to the high variability of the information provided in the relevant literature, additional experts from the area were consulted). Thus, using statistics software to calculate sample size with a maximum acceptable error, 95% confidence level, potential of 80% and possible losses of 20%, we estimated that the number of women for the final sample should be a minimum of 149 in each country. The inclusion criteria were: post-menopausal women aged 45–74, who had experienced at least one VVA symptom within the last six months. Exclusion criteria were: currently taking hormonal treatment (oral or systemic); the presence of severe vasomotor symptoms that affected quality of life; history of heart attacks, stroke, severely reduced liver function, vaginal, uterine or cervical cancer or hereditary lactose intolerance (diagnosed by doctor); and having received treatment for breast cancer within the last three months.

Interviews and surveys were led by trained professional interviewers (Cello Health Insight, London, UK), in compliance with all relevant codes (national and EU) for conduct of the study, and data protection and confidentiality. All responders were informed about their rights to withdraw from the interview or survey at any time and to withhold information as they saw fit.

2.1. Data analysis

For the exploratory study, a descriptive data analysis was performed. The real-time analyses of the results allowed us to hypothesise about the women's profiles, which required validation in the subsequent analytical study. For this exploratory study, a descriptive analysis of the qualitative and quantitative distribution of answers was performed and a multi-level approach was undertaken using Convergent Cluster Ensemble Analysis (CCEA) [[19], [20]] to assess the different profiles in the participant group. CCEA works by taking each individual theme of the questions and running a latent class segmentation analysis of each theme. In this study, latent class ‘mini-segmentations’ were created for each of four dimensions: (1) attitudes towards sex, (2) attitudes towards menopause, (3) use of products and (4) talking about problems. This CCEA approach was undertaken as it allowed each of the four pre-determined dimensions to be clustered independently of each other.

3. Results

The results of the exploratory study showed that menopause had a physical and an emotional impact on women and that VVA -menopausal women.

A total of 749 post-menopausal women participated in the online survey. The socio-demographic characteristics of the participants are detailed in Table 2. The largest age group was 55–59 years (30%); nearly half had urban residence (47%), over a third had secondary-level education plus further qualifications (38%) and over three-quarters were in a relationship at the time of the survey (78%) (Table 2). The CCEA identified eight profiles: self-treater (13%), pragmatic (12%), vivacious (14%), reserved (20%), silent sufferer (10%), expressive (12%), stoic (11%) and sad (8%). Of these profiles, ‘self-treater’, ‘pragmatic’ and ‘silent sufferer’ had not been observed in the exploratory study (Table 1). Overall, the most frequent profile of participants was ‘reserved’ and the least frequent ‘sad’, but the distribution of profiles varied among the countries (Fig. 1). The most frequent profile observed in France and the UK was ‘reserved’ (21% and 32%, respectively), in Germany it was ‘self-treater’ (19%) and ‘reserved’ (19%), in Italy it was ‘pragmatic’ (17%) and in Spain it was ‘vivacious’ (27%).

Several common characteristics and attitudes were observed across the profiles, but differentially expressed among them. Breast cancer experiences were consistent across all the profiles and did not seem to drive any particular behaviour.

3.1. Attitudes and behaviour relating to sexual activity

All ages (45–75 years) were represented in all profiles. The percentage of women who were currently sexually active varied greatly depending on the profile (Fig. 2A). 'Vivacious' women were most likely to be sexually active, which equates with the high level of importance they placed on sex (Fig. 2A), but there was no difference in frequency of sexual activity (Fig. 2B). 'Expressive' women were most likely to want their current level of sexual activity to increase (Fig. 2C), even if they were sexually active (Fig. 2D), and they felt that their partner would like more sex, which reaffirms the high impact that VVA had on them. More than half of all the participants considered sex to be an important part of a relationship (54%) and natural (54%), and 33% considered sex to be important to them (Table 3). 'Vivacious' women selected far more positive statements regarding sex than other profiles, whereas 'expressive' women were particularly differentiated by their desire for companionship and by indicating that sex was painful and something they missed (Table 3).Attitudes and behaviour towards sexual activity. (A) Level of sexual activity; (B) frequency of sexual activity, all women who are currently sexually active; (C) feelings about current level of sexual activity, in all women, and (D) feelings about current level of sexual activity, if sexually active. Percentage (%) of women globally observed in all profiles and in three representative profiles (pragmatic, vivacious and expressive women).

3.2. Attitudes towards ageing and menopause

In the analytical study, most of the participants agreed that menopause did not have a huge impact on their lives. They considered ageing to be a natural process and that menopause was just a part of growing older. Most of them identified vaginal dryness as a VVA symptom and declared a willingness to take action and/or speak about their symptoms.

3.3. Attitudes towards the use of products

Of the participants, 74% had used gels or lubricants to alleviate their VVA symptoms, but this was not correlated with sexual activity. Non-hormonal products were the most frequently used (by 44% overall and by 49% of women with an ‘expressive’ profile, 48% of ‘self-treaters’ and 46% of women with a ‘reserved’ profile) (Fig. 3A). ‘Pragmatic’ women were the biggest users of hormonal treatment (25%) and were the most likely to adhere to treatment regimes recommended by their HCP (98%), showing their tendency to compliance with treatment (Fig. 3B). An average of 26% of participants did not take any treatment to alleviate their VVA (from 34% of ‘reserved’ to 16% of ‘expressive’ women) (Fig. 3B).

Attitudes towards using products. (A) Types of products currently used by women to alleviate their vaginal symptoms and (B) take treatment for as long as the doctor prescribes them to take it for. Percentage (%) of women globally observed in all profiles.

3.4. Attitudes towards talking about their VVA symptoms

Almost all the women's partners were aware of the women's VVA, but the level to which it was discussed varied considerably between profiles (Fig. 4A), due to internal barriers rather than external barriers. ‘Reserved’ women (53%) did not talk to anybody about their VVA symptoms. In contrast, 100% of ‘pragmatic’, ‘vivacious’ and ‘expressive’ women spoke to someone. ‘Pragmatic’ (87%) and ‘expressive’ (87%) women proactively decided to see a medical professional for advice (Fig. 4B). Only 32% of women from all profiles had received a diagnosis of VVA.

Willingness to talk and/or take action about VVA symptoms. (A) Who women spoke to about their vaginal symptoms, (B) who suggested/decided it was time to see a medical professional. Global results of all profiles and results of three representative profiles (pragmatic, vivacious and expressive women).

3.5. Information source about VVA symptoms

A third of participants had searched for information about VVA on the Internet (36%) or on health websites (27%); some participants preferred online forums (14%) or specific leaflets (15%), while smaller numbers of participants used other sources of information, such as television, magazines, books and information directly from a doctor (Table 4). ‘Pragmatic’, ‘vivacious’ and ‘expressive’ women

were more proactive in searching for information than other profiles, mainly via the Internet and specific leaflets. However, there was a high percentage of participants (40%) who did not look at all for information about their VVA symptoms (Table 4), especially the women with ‘reserved’ (51%) and ‘stoic’ (51%) profiles.

4. Discussion

For the first time, this study shows that the attitudes and behaviours of post-menopausal women in relation to their VVA allows for the clear definition of different profiles, with varying representation among countries. A preliminary exploratory analysis showed eight potential profiles related to VVA – vivacious, reserved, expressive, stoic, sad, natural, unconcerned and complacent – classified by their different attitudes towards ageing, medications, womanhood, intimacy and sex and relationships with HCPs and partners. The suggestion that women could be profiled according to their attitudes towards VVA was confirmed with a larger group of participants (n = 749) by using a multi-level approach analysis (CCEA) that identified eight profiles: self-treater, pragmatic, vivacious, reserved, silent sufferer, expressive, stoic and sad. ‘Self-treater’, ‘pragmatic’ and ‘silent sufferer’ appeared as new profiles, whereas the natural, unconcerned and complacent profiles, observed in the exploratory study, were dispersed across the other profiles rather than representing profiles in their own. It is noteworthy that CCEA is a multi-level approach that enables a number of thematic variables to be included (e.g. attitudes, behaviours, needs etc.), without the domination of one group. It removes any unbalance which comes from a natural tendency of certain types of question to drive profiles apart [[19], [20]].

The novelty of this study is that it reveals the importance of identifying women's profiles to design new targeted strategies for each profile, which in turn might overcome barriers that currently hamper HCP—patient communication, VVA diagnosis and its effective treatment. In general terms, our results were in line with those already published. All participants recognised VVA symptoms and their negative impact on their quality of life [[3], [6], [21]]. Around half of participants declared they were sexually active, and only a 4% of them declared that they would like to decrease their level of sexual activity. This lack of sexual activity in a significant percentage of post-menopausal women has been observed in previous surveys [[14], [15]]. However, the present study also showed that ‘pragmatic’,

‘vivacious’ and ‘expressive’ women were more talkative about sexual activity and attitudes than other profiles; for example, a higher percentage of ‘expressive’ women than those with other profiles declared that sex was painful and awkward for them, but that they would like to increase their sexual activity. Most of the women had administered at least one product to relieve their discomfort, mainly non-hormonal treatment. The fact that 15% of women had used more than two products shows that a not negligible percentage of women had obtained insufficient symptom relief, maybe due to inadequate treatment [[22], [23]]. ‘Pragmatic’ women were the biggest users of hormonal treatment, whereas women with ‘reserved’ and ‘sad’ profiles had the lowest percentages of those receiving treatment; therefore, there is a need for better HCP communication with women with the latter profiles, to improve awareness of treatment options. As described elsewhere [[2], [3], [24]], a high percentage of women had not had their VVA diagnosed, probably because of a general patient resistance to discussing symptoms with HCPs. The women with ‘pragmatic’, ‘vivacious’ and ‘expressive’ profiles were the most proactive and talkative, in that they searched for information about their VVA and decided to talk about it with a medical professional, whereas women with ‘reserved’ and ‘stoic’ profiles showed less interest in searching for information about VVA, from either a medical professional or another source. Rapid identification of post-menopausal women's profiles in routine clinical practice is essential to improve both HCP—patient communication and treatment selection. In this study, we showed that some questions relating to attitudes towards sex, menopause, use of products and talking about problems had a greater influence in determining a woman's profile. We will continue to investigate accurate key questions that allow a better discrimination of profile clusters in CCEA for easier and quicker identification of profiles in the clinical setting.

A remarkable finding was that the distribution of profiles varied among the countries. For example, the most prevalent profile in France was ‘reserved’ and in Spain ‘vivacious’. Therefore, differences in the prevalence related to profile and not only cultural characteristics [[3], [11], [16]] should be taken into account in the clinical setting.

The results of this study could be a good starting point for future studies that overcome some of its limitations, for example by increasing the number of participants, by including peri- and pre-menopausal women, by extending the study

to other countries with more cultural differences and by considering different healthcare systems. Thus, we could assess the appearance of new profiles to prepare and validate more accurate and country-specific surveys, to design new targeted health strategies to overcome HCP—patient communication and treatment barriers, and to evaluate the results of new health strategies.

5. Conclusions

The attitudes and behaviours of post-menopausal women towards their VVA allow for the clear definition of different profiles of women, with varying representation among countries. This study identified eight post-menopausal women's profiles. Women with the ‘pragmatic’, ‘vivacious’ and ‘expressive’ profiles were the most talkative and proactive in searching for VVA solutions to improve their quality of life, whereas ‘reserved’ and ‘stoic’ women required more effort in communication by their HCP to diagnose and treat their condition in routine clinical practice.

The results of this study offer a good starting point for further studies to help design public health information to prevent negative attitudes towards VVA and to improve post-menopausal women's quality of life by means of professional diagnosis and adequate treatment. A deeper understanding of the profiles will aid clinicians in customising treatment and consequently increase quality of life for VVA patients.

Conflict of interest statement

All authors are members of an Advisory board on VVA sponsored by Shionogi.

Contributors

Camil Castelo-Branco: Data analysis. Design and wrote the manuscript. Nicoletta Biglia: Data analysis and critically review the manuscript. Rossella E. Nappi: Data analysis, collaborate in discussion section and critically review the manuscript. Anne Schwenkhagen: Data analysis and critically review the manuscript. Santiago Palacios: Data analysis and critically review the manuscript.

Competing interest

All authors are members of an Advisory board on VVA sponsored by Shionogi.

Funding

The study has been sponsored by Shionogi.

Acknowledgments

The authors want to thank: Cello Health Insight, London, UK, for coordinating the interview process and collecting data; Cristina Gil for her assistance in writing and editing the manuscript; and Amanda López for her assistance in the final edition of the manuscript.

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Tables and Figures

Table 1 CCEA segmentation and brief insights of profile characteristics of post-menopausal women with VVA symptoms.

Profile	Exploratory study *N* = 69	Analytical study *N* = 749 (%)	Profile characteristics
Self-treater	–	13	Pharmacy led. See the doctor as the very last resort. Use products they find in the pharmacy
Pragmatic	–	12	Older women. Trust the doctor and see them as the professional. Will only discuss VVA with them
Vivacious	Obs.	14	Impacted by their VVA. Looking for solutions. Interested in VVA treatments
Reserved	Obs.	20	An 'extreme' profile. For instance, only 1% had talked to a doctor about their VVA symptoms and 51% had spoken to no one
Silent sufferer	–	10	Extremely impacted by VVA, but only VVA. Not affected by ageing or menopause any more or less than other profiles. Take longer to present to doctor and do not talk to friends or family about VVA
Expressive	Obs.	12	Impacted by their VVA. Looking for solutions. Interested in new treatment options
Stoic	Obs.	11	Feel it is natural to go through menopause and ensure they are not bothered by symptoms. VVA is easy to cope with. They do not feel the need to medicate the problem, although sometimes use lubrication. Not very talkative about VVA: only discuss it with the doctor if necessary to get treatment
Sad	Obs.	8	Impacted by menopause and its effects on body changes and relationships. VVA had a great impact on sex and quality of life, but they are not very talkative about VVA symptoms, discussing it only with their partner or HCP or just with the doctor at the end of a consultation. Open to any option to relieve VVA symptoms, but not proactive about looking for related information
Natural	Obs.	–	Do not perceive emotional and physiological symptoms associated with menopause as bothersome and requiring medical intervention; rather, accept them as part of a life stage
Unconcerned	Obs.	–	Unconcerned about menopause. Concerned about VVA symptoms, but not much. It is not an issue, as they consider sex life to be reduced now. Open to VVA treatment if it was a priority
Complacent	Obs.	–	Older women, some still sexually active, but also some who did not want an active sex life and didn't have one

Note: (–) means profile not observed; (Obs.) means profile observed.

Table 2 Socio-demographic characteristics.

		***N* = 749 n (%)**
Age (years)	45–49	63 (8)
	50–54	138 (18)
	55–59	226 (30)
	60–64	166 (22)
	65–69	121 (16)
	70–74	35 (5)
Residence	Urban	355 (47)
	Suburban	160 (21)
	Semi-rural	118 (16)
	Rural	116 (15)
Academic background	Up to primary level education	47 (6)
	Up to secondary level education	166 (22)
	Further qualification (e.g. AS/A levels/Baccalaureate)	284 (38)
	University degree up to undergraduate level	121 (16)
	University degree up to master's level	66 (9)
	Doctorate level or professional equivalent	18 (2)
	Other qualification e.g., NVQ	47 (6)
Work status	Paid full-time work	174 (23)
	Paid part-time work	90 (12)
	Self-employed	50 (7)
	Unemployed	127 (17)
	Semi-retired	52 (7)
	Retired	256 (34)
Relationship status	Not in a relationship	168 (22)
	In a relationship	581 (78)

Table 3 Attitudes towards sex in all profiles and in three representative profiles (pragmatic, vivacious and expressive).

Sex is…	All profiles (*n* = 749) (%)	Pragmatic (*n* = 91) (%)	Vivacious (*n* = 107) (%)	Expressive (*n* = 92) (%)
Important part of a relationship	54	46	73	59
Natural	54	38	67	59
Something for us both to enjoy	43	37	62	51
Important to my partner	34	38	36	27
Important to me	33	34	43	37
Makes me feel like a woman	29	31	41	36
Fun	27	19	40	28
Not as important as companionship	25	18	24	39
Important but i have other priorities	21	18	23	14
Not a priority	21	21	21	22
Something i miss	18	15	16	28
Not important anymore	17	18	8	18
Painful	11	11	5	15
Difficult to discuss	8	5	3	9
Awkward	5	2	2	10

Table 4 Sources of information searching about VVA symptoms.

	All profiles (*n* = 749) (%)	**Self-treater (*n* = 97) (%)**	**Pragmatic (*n* = 91) (%)**	**Vivacious (*n* = 107) (%)**	**Reserved (*n* = 149) (%)**	**Silent sufferer (*n* = 74) (%)**	**Expressive (*n* = 92) (%)**	**Stoic (*n* = 81) (%)**	**Sad (*n* = 58) (%)**
Internet sources									
Internet search engines e.g. Google	36	37	40	43	25	28	51	33	36
Health websites	27	30	34	30	27	28	30	12	24
Online health forums	14	14	7	14	11	22	18	12	16
Reading materials									
Leaflets in my doctor's surgery	15	15	14	24	9	16	21	7	22
Magazines	12	12	3	9	13	14	13	11	17
Library/books/literature	3	3	–	8	1	3	2	6	–
Newspapers	3	5	1	2	1	4	2	5	3
TV/Radio									
Television adverts/programmes	1	1	–	2	1	–	4	–	5
Radio	–	–	–	–	–	–	2	–	–
Medical professionals/people									
Doctor	1	–	–	1	–	1	2	–	–
None of the above	40	37	37	34	51	39	28	51	38

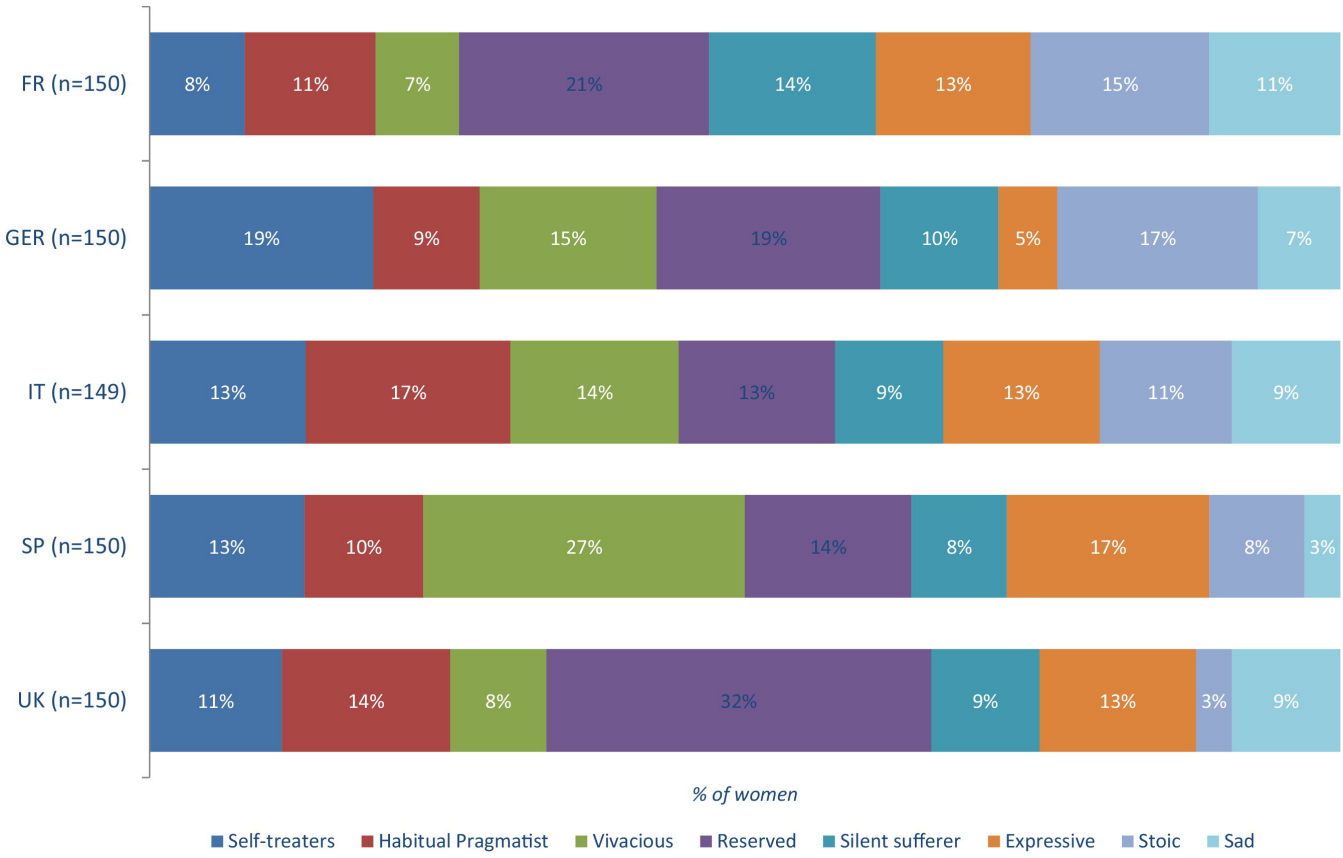

Fig. 1

Proportion of post-menopausal women's profiles in each country.

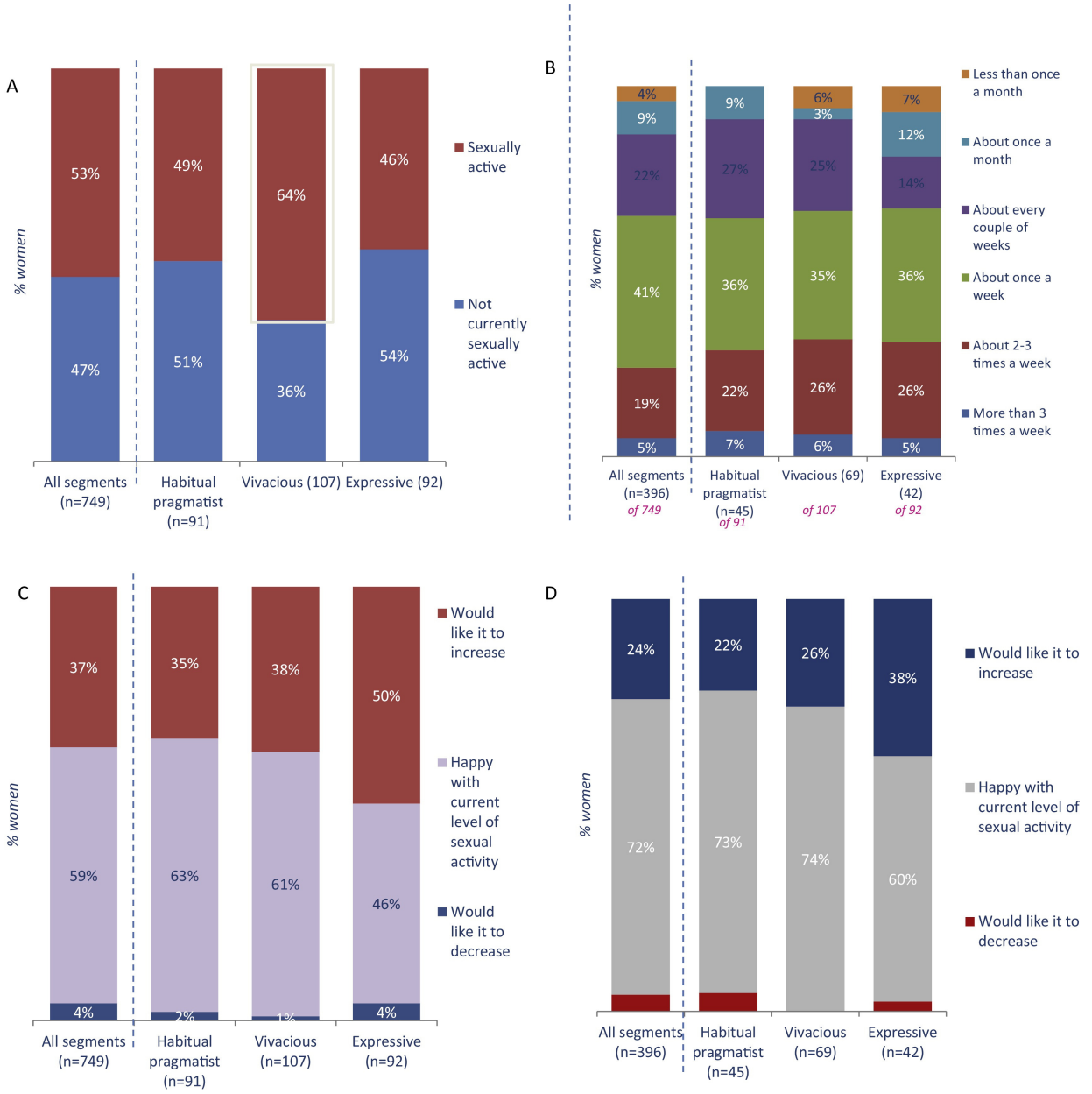

Fig. 2

Attitudes and behaviour towards sexual activity. (A) Level of sexual activity; (B) frequency of sexual activity, all women who are currently sexually active; (C) feelings about current level of sexual activity, in all women, and (D) feelings about current level of sexual activity, if sexually active. Percentage (%) of women globally observed in all profiles and in three representative profiles (pragmatic, vivacious and expressive women)

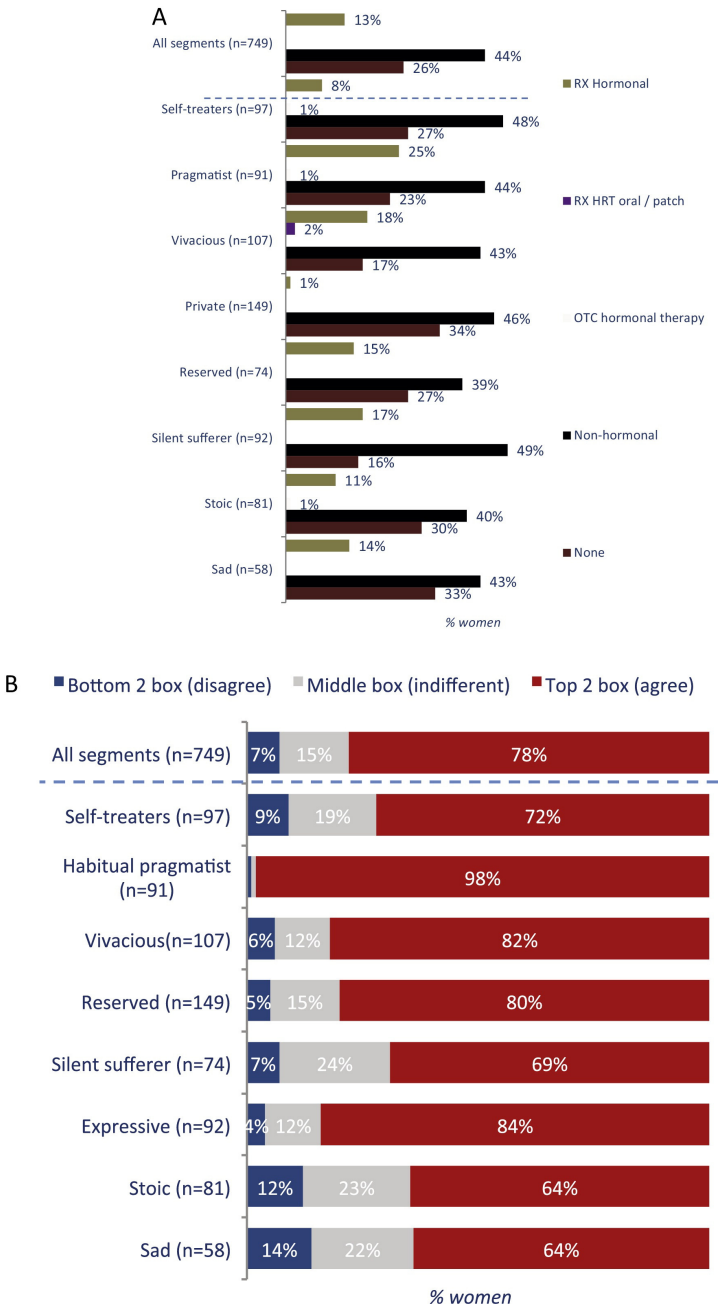

Fig. 3

Attitudes towards using products. (A) Types of products currently used by women to alleviate their vaginal symptoms and (B) take treatment for as long as the doctor prescribes them to take it for. Percentage (%) of women globally observed in all profiles.

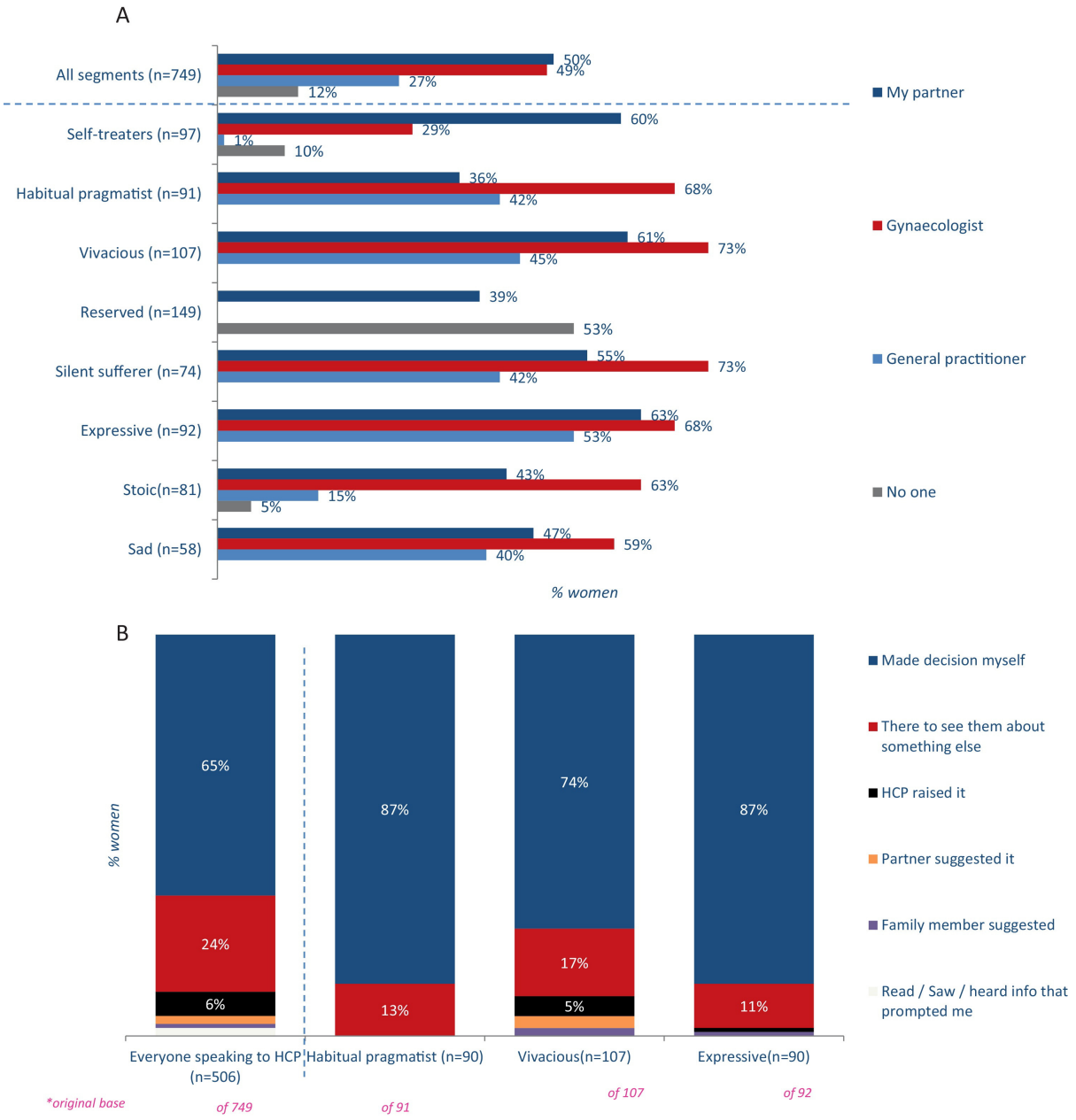

Fig. 4

Willingness to talk and/or take action about VVA symptoms. (A) Who women spoke to about their vaginal symptoms, (B) who suggested/decided it was time to see a medical professional. Global results of all profiles and results of three representative profiles (pragmatic, vivacious and expressive women).