# General well-being, health behavior and health concerns of women in seven western European countries based on a new questionnaire, the Women's Well-being Index

Rafal Janczura [1], Johannes Bitzer [2], Peter Turek [3]

[1] Gedeon Richter Ibérica, Barcelona, Spain; [2] Department of Obstetrics and Gynecology, University Hospital Basel, Basel, Switzerland; [3] Gedeon Richter Plc, Budapest, Hungary

## ABSTRACT

**Background and Purpose:** An important aspect of women's overall health is their psychological and social well-being. An online survey study was conducted using a purpose-developed questionnaire (Women's Well-Being Index; WWBI) to gain insight into the well-being, health behavior and health concerns of women.

**Methods:** The WWBI questionnaire was designed to capture women's general behavior with regard to health and daily life activities, and specific behavior and attitudes towards contraception, infertility and menopause. In June 2017, 7000 women aged 16–59 years from seven European countries (1000 women per country) completed the survey. Based on responses to 39 statements reflecting daily life priorities, nine independent factors influencing well-being were identified and weighted to arrive at the calculated WWBI value.

**Results:** Participating women had a moderately good opinion of their circumstances, as reflected by the mean calculated WWBI value of 64 on a 0 to 100 scale (0 = feeling poorly; 100 = feeling excellent). Attitudes/expectations concerning family/family life and financial stability had the greatest influence on well-being, although with considerable variation among countries. The survey identified health priorities for women (e.g. contraceptive methods for younger women), exposed knowledge gaps (regarding contraception, menopause and infertility), and indicated limited interest in health promotion/screening measures.

**Conclusions:** The WWBI survey study provides useful insight into priorities regarding well-being and health behavior, and health-related beliefs and concerns, among a large sample of European women.

## KEYWORDS

Women's health, well-being, questionnaire, contraception, infertility, menopause, survey.

## Introduction

An important aspect of women's overall health is their psychological and social well-being, which is influenced by a myriad of external and internal factors [1] including sexual and reproductive health [2]. Sexual and reproductive health is defined not only by the presence or absence of specific reproductive issues, but also by attitudes and beliefs, which may be shaped by the cultural, social, religious and economic landscape of a woman's home country. In recent years, progress has been made in improving certain indicators of sexual and reproductive health in Europe, as shown, for example, by an increase in the contraceptive prevalence rate from 55.6% in 2000 to 61.2% in 2015 [2].

Despite the general superiority of women's health and well-being in Europe compared with many other world regions, some degree of health inequality exists both within and among European countries [1-3]. Notably, the prevalence of modern contraception ranges from 73% in northern Europe to 17% in parts of eastern Europe [4]. Moreover, only minimal systematic information is available for the European region about indicators of sexual and reproductive health, such as the prevalence of infertility, the quality of health services, and the concept of sexuality-related well-being [2].

**Article history**
Received 28 Jun 2020 - Accepted 01 Sep 2020

**Contact**
Rafal Janczura; janczurar@richter.hu
*Gedeon Richter Ibérica, Carrer de Pedro i Pons, 9, 08034 Barcelona, Spain*

This article reports on the development and application of the Gedeon Richter Women's Well-Being Index to determine women's well-being. This self-evaluation instrument was developed with the aim of gaining deeper insight into European women's perceptions of aspects of everyday life by exploring a range of domains known to influence well-being.

Currently available indicators of reproductive health are recognized as being inadequate for measuring reproductive well-being at a population level. Although user-defined measures of reproductive well-being are considered to be most meaningful, few high-quality measures are available [5].


*Licens terms*

As well as measuring women's well-being, the survey explored women's views on reproductive health issues of universal importance to women.

## Materials and methods

The Gedeon Richter Women's Well-Being Index (WWBI) cross-sectional survey study was conducted by Kantar Millward Brown (http://www.millwardbrown.com/) on behalf of Gedeon Richter Plc (Budapest, Hungary). The survey took place in June 2017 and involved women from seven western European countries: France, Germany, Italy, Portugal, Spain, Sweden, and the United Kingdom (UK).

Although ethics committee approval is not required for quantitative market research, the survey was conducted in accordance with the usual ethical principles for this type of research. Participation was voluntary and fully anonymous. Analyses were conducted on aggregate data only.

The aim of the research was to gain insight into women's lifestyles, general satisfaction with life, attitudes and health awareness behaviors, and the aspects of their lives with the greatest influence on well-being. The research also examined women's attitudes and behaviors towards contraception, infertility and menopause.

### Questionnaire development

In early 2017, preparatory online desktop research was conducted in six countries (France, Germany, Italy, Portugal, Spain, UK) to identify topics of interest to women based on Facebook activity, social media posts, web browsing, and others. More than one million online activities were monitored. Based on the relative media representation of the various topics, a series of statements was developed reflecting women's priorities in their everyday lives. These statements formed the basis for developing the WWBI questionnaire.

The WWBI questionnaire was developed by Kantar Millward Brown in collaboration with Gedeon Richter. A standardized questionnaire, which took 20 minutes to complete, was developed for each country.

### Interview design

Kantar Millward Brown set up representative samples, by region, in each country. Prior to beginning the fieldwork, pilot interviews were conducted in participating countries to check and confirm the length of the survey. The target segment was women aged 16–59 years. To achieve nationally representative samples for each participating country, 1000 women were recruited per country, with quotas set for age category (16–20 years, 21–28 years, 29–45 years, and 46–59 years) and regional distribution, but not for education or financial status. The research was conducted via the computer-assisted web interview technique in which the respondent follows a questionnaire script provided on a webpage. In women under 18 years, consenting parents were asked to provide their daughter's email address so that contact could be established. All survey participants (regardless of age) completed the questionnaire independently, without an interviewer present.

### Data capture

The WWBI questionnaire captured information on women's employment status, time spent performing everyday life activities, attitudes about aspects of everyday life, and general health behavior (Supplementary File S1).

Respondents were asked to score 39 statements, on a scale from 1 to 5 (1 = not a part of everyday life; 5 = an essential part of everyday life), according to their agreement with the statement, and the extent to which their friends might characterize them according to the statement. An initial analysis of women's responses identified nine independent categories or "factors" based on clasters of items with a common theme: F1: Family; F2. Stable financial background; F3: Healthy lifestyle and attractive appearance; F4: Balance between family and private life F5: Taking health seriously; F6: Relationships and intimacy; F7: Success and career; F8: Individualism; F9: Full-time housewife. These factors were weighted by relative importance and the mean was computed to provide the calculated well-being index expressed on a 0 to 100 scale (0 = feeling bad; 100 = feeling excellent). Further analyses compared index scores per country with the pooled average.

Respondents were also asked to provide a simple self-assessment of their overall satisfaction with their lives by responding to a single question (A5: How do you feel as a woman, currently?). This 'expressive' well-being index was scored on the same 0 to 100 scale as the calculated well-being index.

An overview of general behavior with regard to women's health, particularly disease prevention, was obtained by asking women to rate the importance of various activities in their everyday lives.

### Gynecological issues

In the second part of the survey, women's awareness of and attitudes and behaviors towards the issues of contraception, infertility and menopause were evaluated by a series of specific questions (Supplementary File S2).

## Results

A total of 7000 women aged 16–59 years from France, Germany, Italy, Portugal, Spain, Sweden and the UK took part in the survey (1000 women per country). Participating women were aged 16-20 years (n = 679; 9.7%), 21–28 years (n = 1166; 16.7%), 29–45 years (n = 2899; 41.4%), and 46–59 years (n = 2256; 32.2%).

### Lifestyle and general well-being

Across countries, about two-thirds of surveyed women reported working full-time (45%) or part-time (18%), with the proportion in full-time work highest in Portugal (62%) and lowest in the UK (36%). As well as spending 30% of their weekly time at work (in the workplace or at home), the women reported spending 35% of their time on family-oriented activities such as cooking, household chores, and caring for children, and 20% of their time on activities for themselves (including sport and relaxation either alone or in company). Swedish respondents spent more time on activities for themselves (30%) than the pooled average.

The mean calculated and mean expressive WWBI values were 64 and 70, respectively. On each index, values were highest for Portugal and Spain and lowest for Sweden and the UK (Figure 1). Factor analysis identified that items relating to family (Factor 1; 24%) and a stable financial background (Factor 2; 14%) had the greatest influence on women's general well-being as measured by the WWBI (Figure 2). The relative influence on well-being of each of the nine factors varied considerably by country (Table 1).

## Women's health: general behavior

Screening for cervical and breast cancer are widely implemented as preventative measures to decrease cancer morbidity and

**Figure 1** Mean expressive and calculated well-being indices by country (n = 7000). The calculated well-being index is determined by the relative weighting of factors influencing women's well-being. The expressive well-being index reflects a simple overall self-assessment of satisfaction with life in general according to the response to a single question: "How do you feel as a woman, currently?"

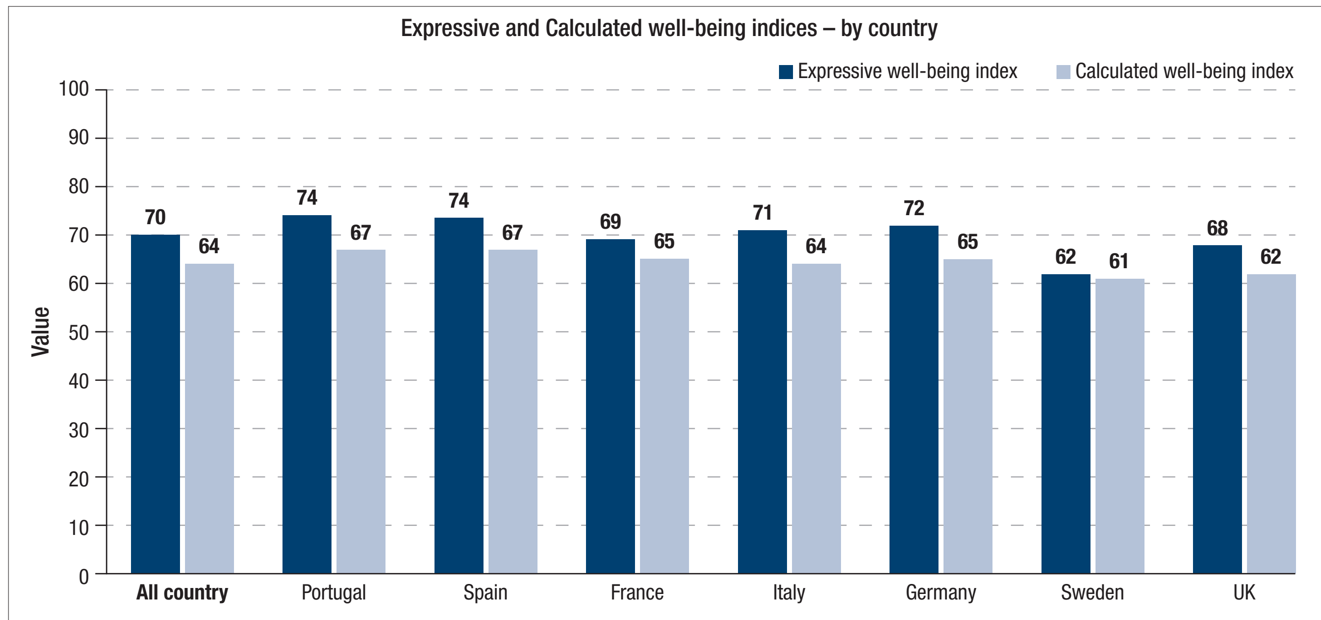



**Figure 2** Factor analysis: relative contribution of factors to women's well-being.

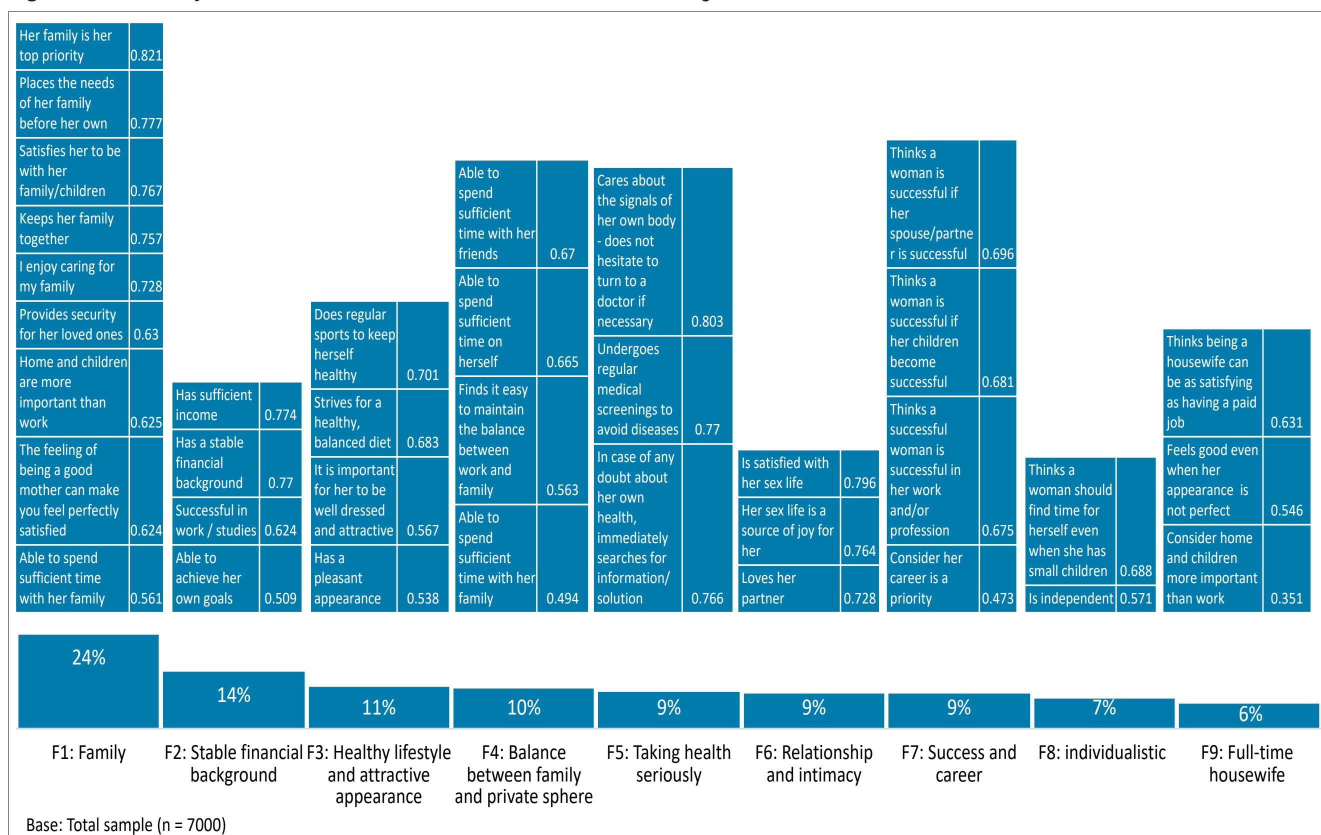
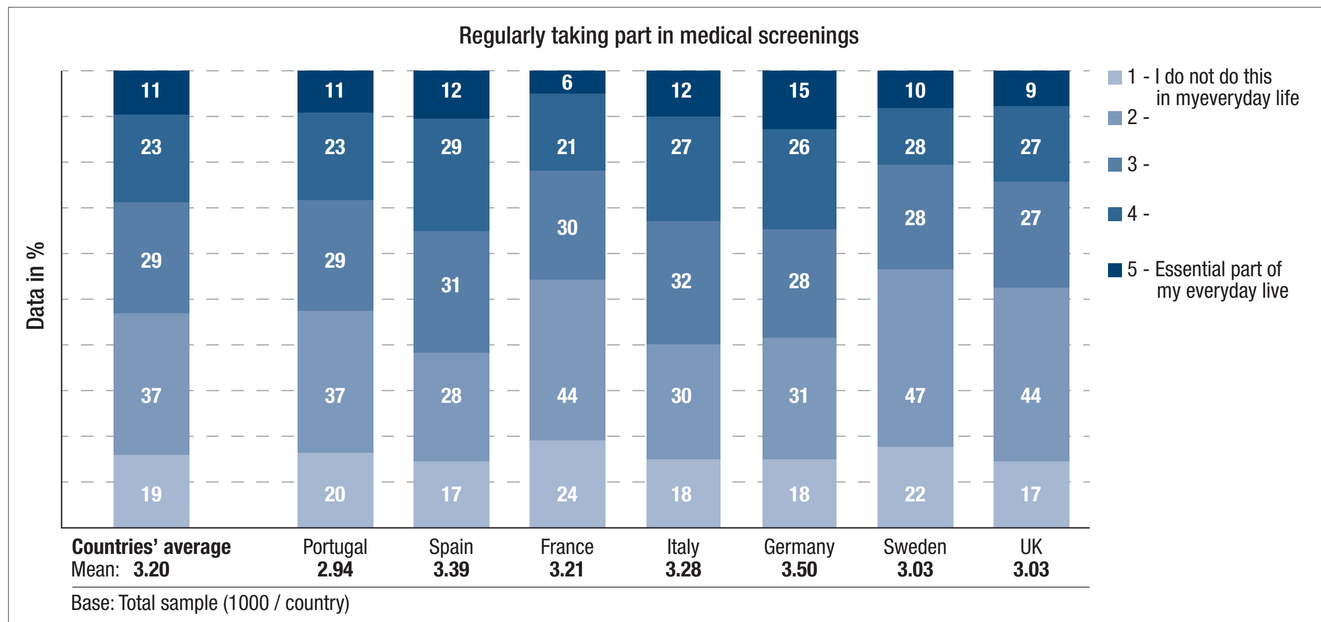


**Table 1** Factor analysis: the variable influence of factors influencing well-being, by country.

| Factor | Portugal | Spain | France | Italy | Germany | Sweden | UK |
|---|---|---|---|---|---|---|---|
| F1: Family | Much more influential | More influential | Average | Average | Average | Much less influential | Average |
| F2: Stable financial background | Average | Average | Average | Less influential | More influential | Average | Average |
| F3: Healthy lifestyle and attractive appearance | Average | Much more influential | Less influential | More influential | Much more influential | Less influential | Less influential |
| F4: Balance between family and private life | Less influential | More influential | More influential | Average | Average | Less influential | Average |
| F5: Taking health seriously | More influential | More influential | Less influential | More influential | Average | Average | Less influential |
| F6: Relationship and intimacy | Average | Average | Average | More influential | Average | Average | Less influential |
| F7: Success and career | Much more influential | Less influential | Much more influential | Less influential | Much less influential | Much less influential | Average |
| F8: Individualism | Much more influential | Average | Much less influential | Less influential | Less influential | More influential | Average |
| F9: Full-time housewife role | Less influential | Much less influential | More influential | Less influential | Average | Much more influential | Much more influential |
| Positive (much more/more) influential factors | Family<br>Success & career<br>Individualism<br>Health | Lifestyle & appearance<br>Family<br>Family & private life balance<br>Health | Success & career<br>Family & private life balance<br>Housewife role | Lifestyle & appearance<br>Health<br>Relationship & intimacy | Lifestyle & appearance<br>Financial stability | Housewife role<br>Individualism | Housewife role |

**Figure 3** Regular participation in medical screenings (n = 7000). Answer to question A6. "When you think about your everyday life, to what extent are these activities, these initiatives part of the things you do?"




mortality. The WWBI survey enquired about the perceived importance and practice of screening as a part of everyday life.

Among the surveyed women, the perceived importance of regular medical screenings was limited (Figure 3).

The mean score on a 5-point scale (1: not a part of everyday life; 5: an essential part of everyday life) was 3.20, ranging from to 2.94 in Portugal to 3.50 in Germany. Only 11% of women assigned this activity a score of 5, with the lowest proportion in France (6%) and the highest proportion in Germany (15%).

Most surveyed women (63%) considered that the current number of screenings they take part in was sufficient for their needs, with proportions ranging from 48% in Spain to 73% in France.

## Women's health topics

The practice of women's health care is strongly oriented towards a life-course approach, recognizing that needs change from adolescence through to midlife, menopause and older age. In alignment with this approach, age group-related differences, with regard to health topics of interest, were observed among the surveyed population (Table 2).

Interest in contraception, pregnancy, infertility, and menstruation was highest among women aged 16–20 years and 21–28 years. Interest in menopause was highest among women aged 46–59 years.

### Contraception

Major issues that have arisen in the contraceptive field over the decades include:

- Fear of hormones and their use in contraception ("pill" scare)
- Increased awareness of and interest in the impact of contraceptives on sexual function and sexual satisfaction
- Recommendation by many scientific and professional societies to increase use of long-acting contraceptives because of their efficacy, safety and user-independent effectiveness [6].

An aim of the survey was to understand the impact of these factors on contraceptive use.

Overall, the survey participants (n = 7000) indicated that choosing the most effective method for preventing an unwanted pregnancy (efficacy) and choosing a method that will not harm health (safety) were the most important aspects of contraception, with mean scores of 7.11 and 7.17, respectively, on a scale from 1 = not important at all to 10 = extremely important. Results were similar across countries, except in Germany where respondents scored these items lower than the pooled average by 1.6 and 1.7 points, respectively.

Although awareness of oral contraceptive pills (81%) and condoms (87%) was high among surveyed women aged 16–50 years (n = 3692), only 29% and 28%, respectively, reported current use of these methods, with considerable variation by country. Oral contraceptive pill use was highest in Portugal (49%) and lowest in Sweden (16%). Condom use tended to be higher than the pooled average (40% in Spain, 35% in Italy) in countries with lower use of the contraceptive pill.

Among oral contraceptive pill users in the surveyed population (n = 723), main drivers of use were effective and reliable protection against pregnancy (38%) and menstrual cycle regulation (37%), with the latter indication being particularly important in the youngest age group. The choice of method among oral contraceptive pill users was influenced mainly by gynecologists (48%) or general practitioners (GPs; 31%). The primary influencer was a gynecologist in Portugal, Spain, France, Italy and Germany; a GP in the UK, and a midwife/nurse practitioner in Sweden.

Among contraceptive users (any method) aged 16–50 years in the surveyed population (n = 2401), 39% reported feeling confident during sexual intercourse that their chosen method would prevent pregnancy. In this same group of women, 11% (mainly users of condoms or "other" contraceptive methods) expressed a preference for using a less effective contraceptive

**Table 2** Women's health topics of interest by age group. Mean scores reflect answers given on a 1–10 scale (1: no interest; 10 very interested).

| | Age group (years) | | | | |
|---|---|---|---|---|---|
| **Topic** | **All ages (n = 7000)** | **16–20 (n = 679)** | **21–28 (n =1166)** | **29–45 (n = 2899)** | **46–59 (n =2256)** |
| Choosing the safest contraception method | 7.1 | **8.2** | 7.7 | 7.1 | 6.5 |
| Choosing a healthy contraception method | 7.2 | **8.1** | 7.8 | 7.2 | 6.5 |
| Avoiding pre-menstrual symptoms: headache, mood swings, irritability, distension | 6.9 | **7.4** | 7.1 | 7.1 | 6.5 |
| How to become pregnant | 5.5 | 6.1 | **6.2** | 5.6 | 4.9 |
| Prepare myself for pregnancy | 5.8 | **6.7** | **6.7** | 5.9 | 5.1 |
| Being prepared for childbirth | 6.3 | **7.1** | 7.0 | 6.3 | 5.7 |
| Contraception after childbirth | 6.1 | 6.6 | 6.4 | 6.2 | 5.8 |
| Abnormal menstruation | 6.7 | **7.5** | 7.2 | 6.7 | 6.1 |
| Painful menstruation, pains in the lower abdomen/cramps | 6.8 | **7.6** | 7.3 | 6.9 | 6.2 |
| Infertility | 6.0 | **6.9** | 6.7 | 6.0 | 5.4 |
| What to do against the symptoms of menopause | 6.7 | 6.0 | 6.0 | 6.6 | **7.3** |
| Signs of menopause starting | 6.5 | 5.9 | 5.9 | 6.5 | **7.0** |

method over risking a negative effect of hormonal contraception on their sexual life; 15% (mainly users of oral contraceptive pills or 'other' contraceptive methods) reported not wanting to use contraception that interrupts sexual intercourse, and 19% reported not wanting to use contraception that negatively influences libido.

Awareness (30%) and usage (2%) of a hormonal intrauterine device (IUD) as a method of contraception was low across surveyed women aged 16–50 years (n = 4300). Awareness was highest in Portugal (58%) and usage was 3%. The highest level of use was reported in Sweden (7%). Among non-users of hormonal IUDs aged 25–50 years (n = 2198), 16% indicated that they would definitely or seriously consider use of this method in future. Main drivers for potential future use were contraception (42%) and convenience (34%). Main reasons for rejecting hormonal IUDs as a contraceptive option were to avoid using hormones (36%) or to avoid having a "foreign body" in the body (35%).

### Infertility

Given the significant age-related decline in fertility in women by the mid-30s [7], another aim of the survey was to understand women's awareness of and/or concerns about fertility.

Among surveyed women aged 29–50 years (n = 2899), the importance of "how to become pregnant", "prepare myself for pregnancy", "being prepared for childbirth" and "infertility" was moderate, based on scores of 5.6, 5.9, 6.3 and 6.0, respectively, on a 10-point scale (1 = not important at all; 10 = extremely important).

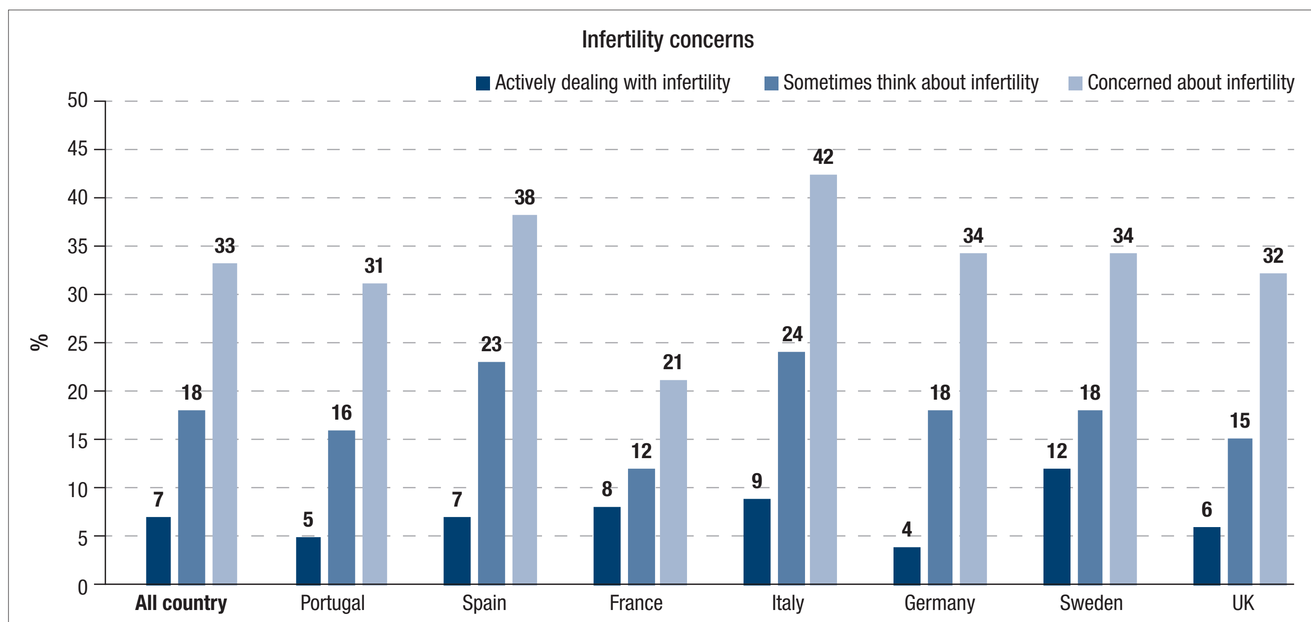
German women rated these items lower than the pooled average (4.3, 4.5, 4.6, and 4.3, respectively). Overall, 33% of surveyed women aged 29–45 years (n = 2204) indicated a current or future concern about infertility, particularly in Italy (42%) and Spain (38%), but only a small proportion (7%) were actively dealing with infertility (Figure 4). In the subgroup with fertility concerns (n = 728), the most common methods used to assist conception were ovulation detection (25%) and timing of intercourse (22%). Women's main concerns were that infertility would "endanger the future they had planned" (50%) or "deprive them of their biggest dream, motherhood" (49%). The potential for infertility treatment to cause a financial burden was also a common concern (46%).

### Menopause

In aging populations the absolute and relative number of women over 50 years of age increases. Transition through menopause is accompanied by a range of somatic and psychosocial changes that can affect women's health and quality of life [8]. Menopausal medicine has become an important part of women's health care oriented toward the life-course approach. Our research also aimed to understand women's experience of the menopause transition, identifying their concerns, management solutions, and specific health needs.

Surveyed women aged 40–55 years (n = 2766) rated the items "what to do against menopause symptoms" and "signs of the menopause starting" of greatest importance, with mean scores of 7.3 and 7.1, respectively, on a 10-point scale (1 = not important at all; 10 = extremely important). German women rated these concepts lower than the pooled average. In this same group of women, 68% reported experiencing at least one menopausal symptom. The most common symptoms were hot flashes (34%), sleeping difficulties (31%), and weight gain/slower metabolism (30%). The widest gap between reporting the presence of menopausal symptoms (67%) and having concern about menopause itself (43%) was among Swedish participants (n = 223). Among symptomatic women (n = 1696), the primary concern with regard to menopause was the associated health risks (38% of respondents), particularly in Spain (57%) and Portugal (52%). The health issues of greatest concern were becoming overweight (39%) and sleep problems (28%).

**Figure 4** Concern about fertility in the 29–45 year age group (n = 2899). Answer to question B2_D3_1: "Are you concerned about the topic of infertility?"



Among surveyed women aged 40–55 years with recognized menopause (n = 1014), 54% reported having sought advice for symptoms from a health practitioner. Seeking advice was most common in Portugal (73%) and least common in Sweden (32%). Among women who sought medical advice (n = 686), the main recommendation from the health practitioner was to adopt a healthy lifestyle including nutrition and exercise (49%), particularly in Spain (68%). Only 16% of women were advised to use menopausal hormone therapy (43% in Sweden), and 17% of women were advised against the use of menopausal hormone therapy (10% in Sweden). Overall, 109 women were prescribed menopausal hormone therapy, mainly by the oral route (70%). Among symptomatic women who did not seek medical advice for menopause (n = 328), the main reasons were mild symptoms (48%) and the belief that menopause is a normal process not requiring medical advice (36%).

Among surveyed women aged 40–55 years with menopausal symptoms (n = 1696), 60% expressed an interest in new methods to manage symptoms and health risk. Interest was highest for personalized therapy, hormone-free therapy, and methods with convenient application (Figure 5).

## Discussion

### Findings and interpretation

The Gedeon Richter WWBI survey study, a market research initiative involving 7000 women from seven European countries, was designed to gain insight into aspects of daily life that influence women's well-being, and to better understand attitudes and behaviors towards women's health issues such as contraception and menopause. Information about specific health conditions that participants may have had – and which may have had an influence on their well-being – was not collected or included in the well-being calculations as possible conditions vary widely and must be diagnosed by a healthcare professional (i.e. not self-reported).

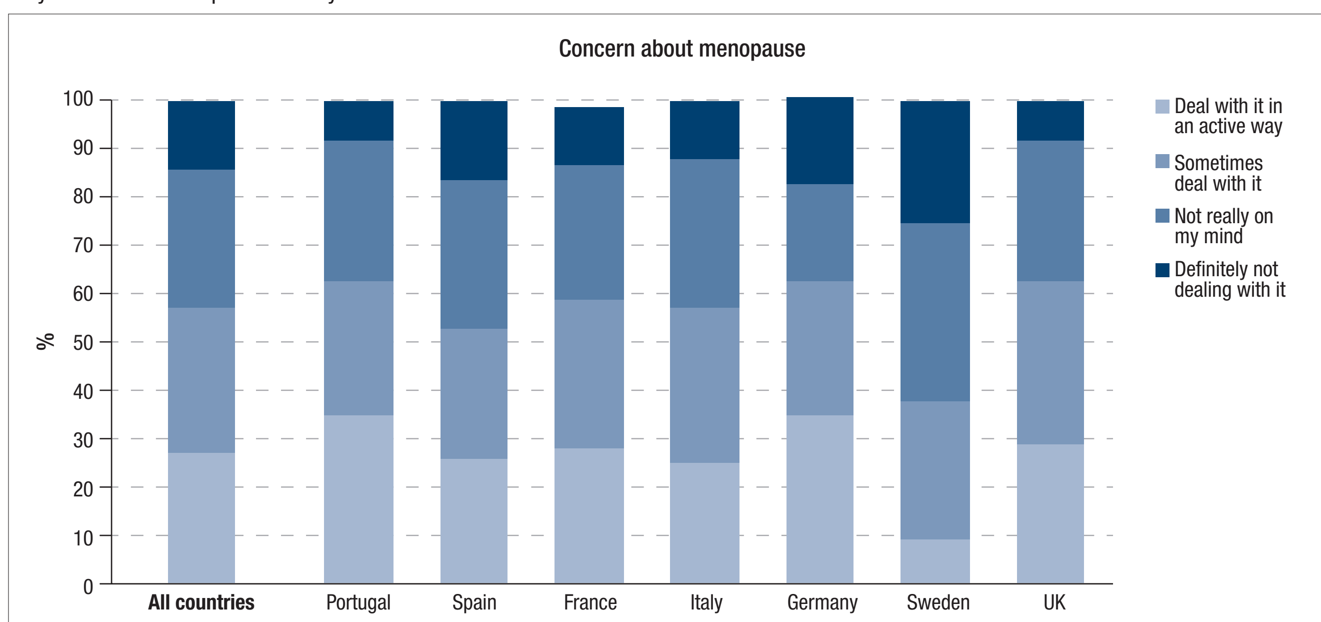
The mean calculated well-being value of 64 across the participating countries suggests that western European women are reasonably satisfied with their lives. The correlation between the calculated (64) and expressive (70) well-being values validates the approach.

The factors with the greatest influence on women's well-being were family and stable financial background. The factor "taking health seriously" ranked equal fifth (9%) with "relationships/intimacy" and "success/career". These results suggest that women put the needs of their family above their own and are consistent with a general trend for women to suppress their own problems and accept the negative impact of health issues on their quality of life.

A positive attitude towards health and a healthy lifestyle was more important for respondents from Portugal, Spain and Italy than other participating countries. Cultural differences [9] may explain, in part, some of the variance in beliefs and attitudes observed in this study. Surveyed women in Portugal and Spain had the most favorable opinion of their life circumstances, while those in Sweden and the UK recorded the least favorable opinion of their life situation. Although these findings are insightful and potentially hypothesis generating, they cannot be generalized to the entire female populations of these countries.

Surprisingly few women considered regular medical screening to be an essential part of their everyday life, and most viewed their current level of participation in screening programs as sufficient. Significant advances in the availability of breast and cervical cancer screening have been made across Europe, although participation rates vary within and between countries [10,11]. Beliefs, knowledge and accessibility are common barriers to participation in screening programs. Strategies aimed at providing educational information to women about the purpose

**Figure 5** Concern about menopause in the 40–59 year age group (n = 2266). Answers to question B2_E1 "Are you concerned about menopause? Do you deal with menopause actively?"



and outcomes of screening programs, and improving screening invitations and accessibility, appear to be warranted [10].

Whilst acknowledging that market research cannot provide a comprehensive and accurate picture of women's health, the survey highlighted some specific issues. The results suggest that, on the whole, a fear of hormones does not have a pronounced effect on women's attitudes toward the use of combined hormonal contraceptives, although this varied by country possibly due to counseling differences between healthcare providers. Healthcare professionals (gynecologists, GPs, midwives, nurse practitioners) are key to identifying the contraceptive option that best meets a woman's lifestyle and individual needs, particularly as women's general awareness of certain methods and their potential benefits is low.

Women of reproductive age, especially those aged 16–28 years, value effective and safe methods of contraception, although sexual health is also important. Preservation of sexual function and sexual well-being influence decision making and practice of contraceptive methods to the degree that some diminution of efficacy is acceptable as long as sexual well-being is not impaired. Messages regarding the advantages of long-acting reversible contraceptives and recommendations for their broader use appear to have been received to different extents in the participating countries. In view of the outstanding efficacy of these devices, all women requiring contraception would benefit from appropriate counseling and improved access [6].

Concerns about infertility can place a huge emotional burden on a woman as fears of not being able to have a family can diminish self-esteem and threaten life plans [12]. Although many women with fertility concerns use methods such as fertility trackers to assist with conception, a much smaller proportion consult a healthcare professional. The failure of user-based methods such as ovulation detection to achieve the desired result within a reasonable timeframe should prompt a consultation with a specialist. In many cases medical methods can provide a simple and effective solution.

Menopause is a frequently neglected health issue. Only about half of surveyed symptomatic women were found to be actively dealing with their symptoms, in alignment with a previous report highlighting the failure of many European women to seek treatment for menopausal symptoms [13]. Many women continue to hold the belief that menopause is a natural process not requiring medical attention.

Moreover, women appear to be more concerned about associated weight gain or sleeping difficulties than about other consequences of estrogen deficiency such as cardiovascular risk and osteoporosis. Surveyed women expressed an interest in learning more about menopause and new methods for managing symptoms. Of particular interest was personalized therapy that addresses individual needs.

### Strengths and weaknesses of the study

This survey study collected data from large national samples of women from seven distinct European geographical regions, facilitating meaningful inter-country comparisons. Random recruitment ensured a representative cross-section of participants.

The study also has limitations. As women were free to decline participation, some degree of self-selection bias cannot be ruled out, e.g. less computer-literate women may have opted out of an online survey study. Differences in healthcare systems between countries can affect women's awareness of and access to health interventions, as well as influence the pathways for interaction with health professionals. The WWBI questionnaire was developed by analyzing topics of interest to women as identified though social media and selected interviews; it was not validated or compared with other quality-of-life tools. The purpose was to have an instrument compatible with online use that could capture the importance of health issues in the context of everyday life, eliciting information about knowledge of, attitudes to and behaviors toward contraception, infertility and menopause, in order to better understand potential gaps in information and care delivery.

### Similarities and differences in relation to other studies

Few tools are available that specifically assess women's health. The 36-item Women's Health Questionnaire (WHQ) measures perceptions of emotional and physical health in mid-aged women (45–65 years) [14]. It includes mood items (depression and anxiety), sleep problems, somatic symptoms (e.g. tiredness, headaches and dizziness), menstrual problems and sexual behavior, and vasomotor symptoms (hot flashes and night sweats). During its development, factor analysis was used to determine relationships between items. However, because the WHQ is generally used to evaluate the efficacy of interventions on menopausal symptoms [15], few data are directly comparable with findings from the current study. A study that applied the WHQ in healthy British women aged >47 years found that 54% reported hot flashes [16] compared with 34% of respondents aged 40–55 years in the current survey.

Tools used to assess the relationship between self-reported sexual satisfaction and general well-being in women include the Psychological General Well-Being Index (PGWB), the Beck Depression Index (BDI) and a daily diary of sexual function [17], although the PGWB and BDI are not specific to women.

The 5-item WHO-5 Well-Being Index is a widely used questionnaire assessing subjective psychological well-being [18]. Although it is a validated screening tool for depression, it is not gender specific and has generally been used in studies evaluating people with specific health conditions such as depression, diabetes, cardiovascular disease or work-related stress [19]. No WHO-5 data directly comparable with those from the current study were identified.

### Relevance of the findings: implications for clinicians and policy-makers

The survey suggested that the concept of looking after one's health, including regular check-ups and participating in screening programs, has greater importance in countries with a higher proportion of working women who view career as a means to ease financial burden. Across countries, the majority of women regarded their current approach to maintaining a healthy lifestyle as sufficient for their needs, without need for active change.

In terms of targeting groups with relevant messages, topics of greatest interest were contraception in women aged 16–28

years and menopause in women aged 46–59 years. Methods to target women with fertility concerns are likely to be complex and require time to develop. Comparatively fewer women were interested in this topic and their attitude toward seeking innovative curative methods was mainly passive.

The survey confirmed that more extensive educational efforts (materials and programs), as well as innovation, are required to improve awareness and acceptance of effective solutions in several areas of women's health. Examples are preventative behavior (e.g. participating in screening initiatives), defining the place in therapy of long-acting reversible contraception (e.g. hormonal IUD), and addressing the lingering negativity towards menopausal hormone therapy.

Engagement by the medical community in terms of communication and education, and the development of informative and scientifically accurate materials on women's health topics, could play a role in ensuring that the right messages are reaching the right people.

## Conclusions

The Gedeon Richter WWBI survey study reflects the behavior and attitudes of a large cohort of western European women with respect to general well-being and reproductive health. Women's behavior and attitudes are complex and variable, likely reflecting differing cultural, social and economic norms in the participating countries, even within a fairly limited geographical area. The comprehensive overview provides insight into important everyday issues that influence women's well-being, and draws attention to the unvoiced and unresolved concerns and needs of women. The WWBI survey study points to the importance of ensuring that scientifically accurate evidence-based information about women's health issues is easily accessible to women in order to guide them in making individual decisions concerning regular medical screening, family planning (contraception and fertility), and menopause.

## References


1. WHO Regional Committee for Europe. Strategy on women's health and well-being in the WHO European Region. 2016. Available at: https://www.euro.who.int/__data/assets/pdf_file/0020/314534/66wd14e_WomensHealthStrategy_160519.pdf.
2. WHO Regional Committee for Europe. Action plan for sexual and reproductive health: towards achieving the 2030 Agenda for Sustainable Development in Europe – leaving no one behind. 2016. Available at: https://www.euro.who.int/__data/assets/pdf_file/0003/322275/Action-plan-sexual-reproductive-health.pdf.
3. European Parliamentary Forum for Sexual & Reproductive Rights. Contraception Atlas, 2019. Available at: https://www.epfweb.org/sites/default/files/2020-05/map_cci-english_english_v9-web.pdf.
4. European Parliamentary Forum for Sexual & Reproductive Rights. Limited access: Europe's contraception deficit: a white paper (executive summary). Contraception Atlas, 2018. Available at: https://www.epfweb.org/sites/default/files/2020-05/epf-contraception_atlas-online-2018.pdf.
5. Mann S, Stephenson J. Reproductive health and wellbeing - addressing unmet needs. British Medical Association, London; 2018. Available at: https://www.bma.org.uk/media/2114/bma-womens-reproductive-health-report-aug-2018.pdf.
6. Curtis KM, Peipert JF. Long-acting reversible contraception. N Engl J Med. 2017;376:461-8.
7. Crawford NM, Steiner AZ. Age-related infertility. Obstet Gynecol Clin North Am. 2015;42:15-25.
8. Lobo RA. Hormone-replacement therapy: current thinking. Nat Rev Endocrinol. 2017;13:220-31.
9. World Values Survey, 2010-2014, Welzel-Inglehart's Cultural Map. Available at: http://www.worldvaluessurvey.org/WVSContents.jsp?CMSID=Findings.
10. Deandrea S, Molina-Barceló A, Uluturk A, et al. Presence, characteristics and equity of access to breast cancer screening programmes in 27 European countries in 2010 and 2014. Results from an international survey. Prev Med. 2016;91:250-63.
11. Basu P, Ponti A, Anttila A, et al. Status of implementation and organization of cancer screening in The European Union Member States-Summary results from the second European screening report. Int J Cancer. 2018;142:44-56.
12. Palomba S, Daolio J, Romeo S, Battaglia FA, Marci R, La Sala GB. Lifestyle and fertility: the influence of stress and quality of life on female fertility. Reprod Biol Endocrinol. 2018;16:113.
13. Constantine GD, Graham S, Clerinx C, et al. Behaviours and attitudes influencing treatment decisions for menopausal symptoms in five European countries. Post Reprod Health. 2016;22:112-22.
14. Hunter MS. The Women's Health Questionnaire: A measure of mid-aged women's perceptions of their emotional and physical health. Psychol & Health. 1992a;7: 45-54.
15. Hunter MS. The Women's Health Questionnaire (WHQ): Frequently Asked Questions (FAQ). Health Qual Life Outcomes. 2003;1:41.
16. Hunter M. The south-east England longitudinal study of the climacteric and postmenopause. Maturitas. 1992;14:117-26.
17. Davison SL, Bell RJ, LaChina M, Holden SL, Davis SR. The relationship between self-reported sexual satisfaction and general well-being in women. J Sex Med. 2009;6:2690-7.
18. WHO Regional Committee for Europe. Wellbeing Measures in Primary Health Care/The Depcare Project. WHO Regional Office for Europe: Copenhagen. 1998. Available at: https://www.euro.who.int/__data/assets/pdf_file/0016/130750/E60246.pdf.
19. Topp CW, Østergaard SD, Søndergaard S, Bech P. The WHO-5 Well-Being Index: a systematic review of the literature. Psychother Psychosom. 2015;84:167-76.



***Acknowledgements:*** *Medical writing assistance was provided by Robert Furlong and Kerry Dechant on behalf of Content Ed Net (Budapest, Hungary), with funding from Gedeon Richter (Budapest, Hungary).*

***Conflict of Interest Statement:*** *Rafal Janczura is a full-time employee of Gedeon Richter Ibérica. Johannes Bitzer has worked as an adviser and has given lectures for Abbott, Actavis, Bayer Pharma, Boehringer Ingelheim, Exeltis, Gedeon Richter, Libbs, Mitsubishi, MSD, and Theramex. Peter Turek is a full-time employee of Gedeon Richter Plc.*

***Funding:*** *The Women's Well-Being Index initiative was funded by Gedeon Richter Plc (Budapest, Hungary).*

*Supplementary File S1.* Gedeon Richter Women's Well-Being Index.

**A1**

Do you currently work for a living?
Unemployed
Stay at home as a housewife
Currently stay at home with children
Retired
Studying
Part-time working
Full-time working

**A2**

On average, what proportion of your time per week is spent on the following activities?
Relaxing with others, in company
Doing sports
Relaxing or doing a hobby by yourself
Shopping
Household chores (cleaning etc.)
Cooking, baking, preparing meals
Caring for elderly, ill relatives
Caring for children
Studying at school, university
Work, in total, at a workplace and at home

**A3**

**To what extent do you agree with these statements? Please express your opinion on a 5-point scale, where 1 = not a part of everyday life, and 5 = essential part of everyday life.**

1. The feeling of being a good mother can make you feel perfectly satisfied.
2. Home and children are more important than work.
3. Being a housewife can be as satisfying as having paid work.
4. I am independent.
5. A successful woman is successful in her work / profession.
6. My career is a priority to me
7. I enjoy caring for my family.
8. The balance of my family largely depends on me staying healthy.
9. My sexual life is a source of joy for me
10. A woman is successful if her spouse/partner is succesful
11. A woman is successful if her children become successful.
12. A woman should find time for herself even when she has small children
13. I feel well even when I do not have perfect appearance
14. It's easy to maintain the balance between work and family

**A4**

**How do you think your friends would characterize you if they had to describe you with the following statements [same statements as A3]? Please express your opinion on a 5-point scale, where 1 = not a part of everyday life, and 5 = essential part of everyday life.**

1. I loves my partner.
2. I provide security for my loved ones
3. It satisfies me to be with my family/ children.
4. I am acknowledged and respected outside of the family too.
5. I have sufficient income
6. I am successful in work / studies.
7. I am to spend sufficient time on myself.
8. I am able to spend enough time with my friends.
9. I am able to achieve my own goals.
10. I am able to spend sufficient time with my family.
11. I am satisfied with my sexual life.
12. I keep the family together.
13. I have a pleasant appearance.
14. I am tireless and full of energy
15. I do regular sports to keep myself healthy.
16. Balanced.
17. My family is my top priority.
18. I am easily coping with her work as well as with the things to be done at home
19. My sexual activity has not lessened after the birth of my child(ren).
20. I have a stable financial background.
21. It is important for me to be well dressed and attractive.
22. I am satisfied with my looks
23. I put the needs of my family before my own.
24. I attend regular medical screenings in order to avoid diseases.
25. I care about the signals from my own body; I do not hesitate to turn to a doctor if necessary.
26. If I have any doubt about my own health, I immediately search for information or a solution.
27. I strive for a healthy, balanced diet.

**A5**

**How do you feel as a woman, currently? Express your opinion on a 100-point scale, where 0 = bad and 100 = excellent.**

**A6**

**When you think about your everyday life, to what extent are these activities part of the things you do? Please express your opinion on a 5-point scale, where 1 = not a part of everyday life, and 5 = essential part of everyday life.**

Taking part in cultural activities (theatre, concert, cinema)
Trekking, doing excursions outdoors
Doing sports regularly
Walking or taking a bike instead of a car or public transport
Maintaining my weight
Health protection through regular take of vitamin supplements
Regularly meeting friends
Regularly taking part in medical screenings

**A7**

**Ideally, if you could control this better, would you deal with these activities more than now or less?**
**Please express your opinion on a 3-point scale, where 1 = would like to deal with this less, and 3 = would like to deal with this more.**

Taking part in cultural programs (theatre, concert, cinema)
Trekking, doing excursions outdoors
Doing sports regularly
Walk or take bike instead of car or public transport
Keeping weight
Health protection through regular take of vitamin supplements
Regularly meeting friends
Regularly taking part in medical screenings

*Supplementary File S2.* Gynecological issues.

| CONTRACEPTION | |
|---|---|
| **Oral contraception** | |
| B1. | Here is a list of female health topics that can crop up in women's thoughts and conversations. To what extent do you consider each important? |
| B2_A1. | Please indicate which of the contraception methods you have heard of, regardless of whether or not you have used them before. |
| B2_A2. | Do you use any of these methods currently? If yes, which ones? |
| B2_B1. | Please indicate which of the contraception methods you have heard of, regardless of whether or not you have used them before. |
| B2_B2. | Do you use any of these methods currently? If yes, which ones? |
| B2_A3. | What were the top 3 most important factors for you when deciding what type of contraception to use? |
| B2_A4. | Which of the following statements about contraception and sexual life fit you generally? |
| B2_A5. | Who or what influenced you to choose the type of contraception you use? |
| B2_A6. | How did you learn about the contraception you are using? How did you gather information about it? |
| **Hormonal intrauterine contraception** | |
| B2_A1. | Please indicate which of the contraception methods you have heard of, regardless of whether or not you have used them before. |
| B2_A2. | Do you use any of these methods currently? If yes, which ones? |
| B2_B1. | Please indicate which of the contraception methods you have heard of, regardless of whether or not you have used them before. |
| B2_B2. | Do you use any of these methods currently? If yes, which ones? |
| B2_B4. | Do you think you would consider using hormonal intrauterine contraception in the future? |
| B2_B5. | Why would you not use hormonal intrauterine contraception in the future? |
| B2_B6. | Why would you consider using a hormonal intrauterine device? |
| **Infertility** | |
| B1. | Here is a list of female health topics that can crop up in women's thoughts or conversations. To what extent do you consider each important? |
| B2_D3_1. | Are you concerned about infertility? |
| B2_D3_2. | Does the issue of fertility / infertility cause you any worry in your life? Do any of the following worry you? How much? |
| B2_D4 | Are there any special methods, ways you use to help conceiving? |
| B2_D5. | Have you ever consulted your gynecologist / GP about signs or problems of infertility? |
| B2_D6. | Are you looking for information about how to solve infertility? |
| B2_D7. | Where do you gather information on solving infertility problems? What information sources have you used? |
| **Menopause** | |
| B1. | Here is a list of female health topics that can crop up in women's thoughts and conversations of women. To what extent do you consider each important? |
| B2_E1. | Are you concerned about the menopause? Do you deal with menopause actively? |
| B2_E2. | Do you suffer from any of the following symptoms of the menopause? |
| B2_E3. | Do you consider this/these symptom(s) to be menopausal symptom? |
| B2_E4. | Have you sought medical advice from a doctor because of the symptoms you have experienced (that may be in relation to the menopause)? If yes, what kind of doctor was it? |
| B2_E5. | Why haven't you sought medical advice from a doctor because of menopause-related symptoms? |
| B2_E6. | What treatment did the doctor select for you? What recommendations did the doctor provide? |
| B2_E6_1. | You mentioned the doctor selected menopausal hormone (replacement) therapy for you. Which of these therapies? |
| B2_E7. | Are you satisfied with the currently used therapy, method? |
| B2_E8. | How does menopause affect you personally? |
| B2_E9. | Do you have any specific health issues that you are worried about in particular? What are they? |
| B2_E11. | Are you interested in new methods or solutions for curing the complaints and health risks of menopause? If yes, which of these are you interested in? |
| B2_E12. | [Questionnaire serial number selection] |
| B2_E13. | Would you like to use the transdermal menopause treatment illustrated below? |