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FEMALE SEXUAL FUNCTION

# A Survey of Female Sexual Functioning in the General Dutch Population

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## ABSTRACT

**Background:** After the diagnosis and treatment of disease, a major barrier to research on psychosexual functioning is the lack of a consistent estimate for the prevalence of female sexual dysfunction in the general population.

**Aim:** To clarify the prevalence of age-related female sexual functioning in the general population.

**Methods:** A sample was compiled by random selection of women from the general population in the northern part of the Netherlands and was categorized by age. Women completed the Female Sexual Function Index (FSFI), personal medical items and daily activities, the Body Image Scale, the SF-36 Health Survey, the Hospital Anxiety and Depression Scale, and the Multidimensional Fatigue Inventory. Participants' representativeness was assessed by comparing their characteristics with data from the Dutch Central Agency for Statistics and the Dutch Health Monitor. General health, fatigue, and well-being were compared with national or international data.

**Outcomes:** Age-related total and domain scores of the FSFI.

**Results:** We evaluated female sexual functioning of 521 sexually active women. For women 20 to 80 years old, sexual functioning showed wide variance and was poor in 28% of all sexually active women, with FSFI scores being below the defined clinical cutoff (FSFI score $< 26.55$). Although sexual activity and functioning significantly decreased with increasing age, sexual satisfaction decreased only non-significantly.

**Clinical Implications:** This study provides valuable age-specific ranges for female sexual functioning in the general population and can inform upcoming clinical studies.

**Strengths and Limitations:** This is the largest study on female sexual function in a representative Dutch population using internationally validated tools and described by age categories, providing valuable information that can help in the understanding of how female sexual function changes with age. The FSFI has been criticized for not assessing personal distress related to sexual problems, so the lack of the Female Sexual Distress Scale in our study is an unfortunate shortcoming. The high rate of sexual inactivity (31%) resulted in fewer women being available to evaluate sexual functioning, but this could reflect the actual level of sexual (in)activity among women in a general population.

**Conclusion:** FSFI total and domain scores showed wide variation across all age categories, but overall, one in four sexually active women scored below the diagnostic cutoff score. Sexual activity and functioning also decreased with age, whereas sexual satisfaction decreased only slightly. **Lammerink EAG, de Bock GH, Pascal A, et al. A Survey of Female Sexual Functioning in the General Dutch Population. J Sex Med 2017;42:937–949.**



**Key Words:** Sexual Functioning; Age-Related Sexual Functioning; Sexual Dysfunction; Sexual Satisfaction; Female; General Population

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## INTRODUCTION

Sexual functioning is an important factor in quality of life, and there is an explicit relation between sexual dysfunction and psychological distress.[1] Female sexual dysfunction has been defined as a multi-causal and multidimensional problem with four major components that indicate disorders of desire, arousal, orgasm and sex-related pain.[2] Defining female sexual functioning by these four domains enables focused diagnosis and treatment of sexual dysfunction. However, during the development of the Female Sexual Function Index (FSFI), a validated self-report measurement of female sexual functioning, individual items were assigned to desire and arousal, lubrication, orgasm, satisfaction, and pain. After clinical consideration, the desire and arousal domain was separated, which resulted in an instrument with six domains.[3] In addition, a diagnosis of sexual dysfunction requires that the condition must cause significant personal distress.[2]

To date, there has been no consistent estimate of the prevalence of any aspect of female sexual dysfunction. Indeed, there is substantial variability in the existing literature, with measurements of sexual dysfunction and timeframes often differing among studies.[4–6] In addition, sexual activity and sexual function reportedly decrease with age[7–9] and a host of characteristics, including educational level, relationship quality, depression, anxiety, general health, fatigue, and body image,[10–15] are known to affect female sexual function. However, a major barrier to the provision of effective psychosexual counseling is the lack of data about sexual functioning by age in the general population. The FSFI is a validated tool that can be used for this purpose.

We present data on female sexual functioning in a sample from the general population. Because age is a major determinant of female sexual function, we also present the results by 10-year age categories. We anticipated that large-scale data, specifically in a sample from the general population, could not only improve our understanding of age-related female sexual functioning but also provide reference values for use in future clinical studies on this topic.

## METHODS

### Study Design

We compiled a representative sample of adult women from a population in the north of the Netherlands. Women from four age categories (20–40, 40–65, 65–80, and ≥80 years old) were approached to participate, with numbers per category predetermined by matching to the normal age distribution in the Dutch population. Data were collected from four midsize towns, one in each of four provinces in the north of the Netherlands, to ensure a normal geographic distribution of participants. Local authorities provided a random selection of inhabitants within each of these age categories.

We sent questionnaires by post to women 20 to 100 years old. Women were asked to complete the questionnaires by pen and to return them by post in an envelope that we provided. No additional instructions were given. To maximize the response rate, media attention was generated through local newspapers by explaining the purpose of the study and by stressing that participation and data processing would be anonymous. All questionnaires were sent in September 2012, and their return was requested within 2 months. To retain anonymity of the responders, no reminder letters were sent.

The study was analyzed at the University Medical Center Groningen (Groningen, The Netherlands), where the medical ethical committee concluded that approval was unnecessary because the involved participants were not patients. The local authorities of the four participating towns were informed about the purpose and contents of the study by email, were invited to participate, and were asked to provide the addresses of female inhabitants at random by age category. In a letter accompanying the questionnaire, the inhabitants selected for participation were informed about the purpose of the study, the way their address was received, and the methods used to ensure anonymity. The names and addresses of inhabitants were not included with the questionnaires.

### Questionnaires

The Supplement presents an overview of the questionnaire used for this study. In addition to the questions of the FSFI, all participants were asked questions about personal characteristics, medical information, daily activities, body image, general health, well-being, and fatigue.

#### Female Sexual Function Index

This questionnaire assesses female sexual function by focusing on six domains: desire, subjective arousal, lubrication, orgasm, satisfaction, and pain and discomfort.[3] Desire is the only domain without an optional zero score, and all individual domain scores can be derived from a computational formula for the total FSFI score.[3] A FSFI total score of 26.55 is defined as the cutoff score for differentiating women with from women without low sexual function, with scores above the cutoff indicating good sexual functioning.[16] To derive appropriate total scores, the FSFI was analyzed only for participants who engaged in some sexual activity during the measurement period.

#### SF-36 Health Survey

This questionnaire assesses general health and consists of 36 questions organized into eight multi-item scales: physical functioning, role limitations from physical health problems, bodily pain, general health perceptions, vitality, social functioning, role limitations from emotional problems, and general mental health. There are standardized response choices per item, and all scale scores are converted to a scale of 0 to 100, in which higher scores indicate higher levels of functioning or well-being.[17]

#### Hospital Anxiety and Depression Scale

The 14-item Hospital Anxiety and Depression Scale (HADS) was used to report well-being. Developed by Zigmond and