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Review article

Vaginal wind: A literature review

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ABSTRACT

Objective: In the medical literature, there is little known about vaginal wind, though from clinical expertise, it turns out to be a consistent and underreported problem. The aim of this review was to collect the available literature about the different aspects of vaginal wind.
Study design: A systematic literature search was conducted using three databases until December 2015. The search strategy was built using relevant synonyms of vaginal wind. Study characteristics were extracted. Risk of bias, the quality of the relevant studies and the level of evidence was judged.
Results: Eleven studies met the inclusion criteria. Vaginal wind occurs on random movements and during or after coitus. The prevalence ranges from one to 69%. The pathophysiology is unclear and the incidence unknown. Known risk factors are vaginal delivery and urinary incontinence. Provoking factors are coitus, digital stimulation, cunnilingus and exercising. Female sexual function is decreased. The sexual function of male partners with vaginal wind is not influenced. Overall vaginal wind leads to a decrease in the quality of live and can have cause social isolation. The treatment is related to the cause and mainly not successful. Tampons can be used for treatment as well as prevention.
Conclusion: Vaginal wind is an underestimated health issue with a severe impact on sexual functioning. Adequate research is needed regarding the influence of sexual activity, weight, age, parity, the underlying pathophysiological mechanisms, prevention and treatment.

Contents

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Introduction

From clinical expertise of pelvic floor therapists and gynaecologists, vaginal wind is a rather frequent complaint. However, in the medical literature, little is known about this problem. Vaginal wind is an embarrassing problem for the patient with an important impact on the quality of life (QoL). It can lead to shame, sexual dysfunction, and even social isolation [1]. More medical attention regarding this complaint is needed in order to improve the care.

The aim of this review is to collect data about all the different aspects of vaginal wind.

Materials and methods

This systematic literature search was performed according the preferred reporting items for systematic reviews and *meta*-analyses (PRISMA) guidelines [2].

Search strategy

The reviewers started with a search for synonyms of vaginal wind. Subsequently, these terms were inserted one by one in three databases (PubMed, MEDLINE, Cochrane Database), to see which of them gave relevant results within the scope of the research question. Based on this, a number of terms were excluded from the research, in particular vaginal flatulence, vaginal gas, vaginal fart, queefing, queef, varting, vart, garrulitas gravita, chattering vulva, fanny fart, and incontinentia vulvae. The criteria for exclusion that were used are language (other than English), intentionally blowing of air in the vagina, enterovaginal fistulas or air embolism as the main subject.

With the following keywords, the search strategy was performed: *"vaginal flatus" OR "vaginal wind" OR "vaginal air" OR "garrulitas vulvae" OR "flatus vaginalis" OR "vaginal noise" OR "noisy vagina"*.

The flowchart of the search strategy is presented in Fig. 1. The exclusion criteria were applied and all remaining results from the different databases were then screened independently by two reviewers (SDG, XM), based on their title and abstract. In case of disagreement, a third reviewer (HN) was consulted.

Data items

The following data were abstracted from included studies: methods of measurement, definition, pathophysiology, symptomatology, incidence, prevalence, risk factors, provoking factors, protective factors, associated conditions, impact on QoL, suggested treatments, prevention. Table 1 provides an overview of these data.

Risk of bias in individual studies

The assessment of methodological quality was done independently by two reviewers (SDG, XM). In case of disagreement, a third reviewer was consulted (HN). For prevalence studies, the assessment criteria for methodological evaluation of observational research (MORE) (http://www.ncbi.nlm.nih.gov/books/NBK53279) were used. For qualitative studies, the assessment criteria for qualitative research provided by the Dutch Cochrane Collaboration were used (http://netherlands.cochrane.org). The other studies were assessed using criteria composed by the reviewers, which are described in the results.

Results

Selection of studies

The flow chart for study selection and exclusion is presented in Fig. 1. The search strategy applied to the three databases mentioned above, PubMed (number of results n = 16), MEDLINE (n = 16), and Cochrane Database (n = 0), through December 16, 2015, identified 32 studies. One additional study was found by hand screening the references of all the articles [3]. After removing duplicates, 18 studies were screened by assessing their title and abstract. The reviewers compared and discussed both lists of included and excluded studies, which has led to a list of included (n = 11) and excluded (n = 7) studies.

The remaining articles were read and the reviewers independently assessed the quality of the studies (Table 1). The outcome was discussed and merged into one table (Tables 2 and 3).

Methodological quality

The methodological quality assessment was done separately by two reviewers. Three studies were evaluated using the assessment criteria for prevalence research by MORE [4–6]. One study was evaluated based on the assessment criteria for qualitative research by the Cochrane Collaboration [7]. All four studies had a low quality, as can be observed in Tables 2 and 3. The other included studies were case reports and letters to the editor [3,8–13]. They were assessed using the following criteria: year of publication, methodology, reproducibility, amount of included patients, applicability in practice, and biases. Results are presented in Tables 2 and 3, they were generally of a low quality. There was no systematic methodology reported in any of these studies. The results that were described in the studies, were possibly reproducible in only one case [3]. In one other study, the reproducibility was doubtful [12]. In most case reports and letters to the editor, the number of included patients was very low (1–6 patients per study) [8–13]. Except for one study, with 27 included patients [3]. Financing was not described in any of these studies. The year of publication of the studies covered a wide range. Two of the studies were published between 1990 and 1999 [3,9], three between 2000 and 2009 [10–12], and two in 2010 or later [8,13]. Most researches suggested treatments that were (fairly) applicable and available in daily practice. One study described surgery as a treatment option, which is less available and also more invasive [9]. For biases, it can be stated that generally, there is an important publication and selection bias in case reports. This causes the reliability of these studies to be low.

Methods of measurement

In the included studies, many methods of measurement and examination have been described for vaginal wind and co-