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Vaginal discharge in general practice – women's perceptions, beliefs and behaviour

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Objectives **– To describe women's perceptions and beliefs about their vaginal secretion and to relate these to their behaviour with respect to complaints of vaginal discharge.**
Design **– A multi-practice study including questionnaires for women and doctors and a semi-structured interview study.**
Setting **– North Jutland County and Aarhus County, Denmark.**
Subjects **– 283 women with and 417 women without complaints of vaginal discharge answered a questionnaire about their vaginal secretion. Ten women with vaginal discharge took part in the indepth interviews.**
Results **– 179/274 (65%) women with and 111/417 (27%) women without complaints of vaginal discharge were bothered by their usual secretion. In 54/269 (20%) women with complaints, the pelvic examination was normal. In 59/416 (14%) women without complaints, the doctor found an abnormal vaginal secretion. Most women complaining of vaginal discharge had an external locus of control in relation to their symptoms, but an internal locus of control in relation to health in general. Fear of having a serious disease or a sexually transmitted disease was the reason for the visit to the general practitioner in 164/281 (58%).**
Conclusion **– Women's perceptions and beliefs about their vaginal secretion varied and were related to their health seeking behaviour. In addition to information about possible biological causes of vaginal discharge, the general practitioner should also actively seek information about the women's perception of normality and beliefs in relation to the symptoms she experiences.**

Key words: vaginal discharge, perceptions, normality, beliefs, behaviour, general practice.

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Many women complain of vaginal discharge; it is a frequent reason for consultation in general practice and in private gynaecological practice (1,2). The microbial flora of the lower genital tract has been extensively studied and an increasing number of microorganisms have been identified as possible causes of vaginal discharge (3,4).

However, in many cases it is not possible to establish a microbiological or other biological diagnosis (5,6). This may be not only a shortcoming in diagnostic capability, but it may also indicate that factors related to the woman's perception of normality are important.

While our knowledge about microbiology has increased recently, we still know very little about other factors that may be important for the physician to consider in patients with vaginal discharge.

The purpose of this study was 1) to describe the perception of the usual vaginal secretion in women with and without complaints of vaginal discharge, 2) to compare the findings from pelvic examination in the two groups, 3) to describe women's beliefs in relation to a perceived abnormal secretion, and 4) to examine the relationship between the women's beliefs and their behaviour with respect to the symptoms.

Methods and material

The multi-practice study

Ninety five general practitioners (GPs) participated in a multi-practice study in North Jutland County, Denmark. Each GP was asked to include four consecutive women complaining of vaginal discharge

and ten consecutive women who had a pelvic examination for reasons other than vaginal discharge.

After giving her consent the woman had a pelvic examination. Before she left the GP's office she was given a questionnaire which she completed at home and returned in a prepaid envelope to the Institute of General Practice, Aarhus. After the visit the GP also completed a questionnaire with information about findings.

A total of 323 women who visited a GP because of vaginal discharge received a questionnaire including questions about any usual vaginal secretion, and about the secretion that had stimulated the present visit. 283 (88%) women returned the completed questionnaires. Their median age was 31 years (quartiles:24–41).

805 women without complaints of vaginal discharge who had a pelvic examination performed for other reasons than vaginal discharge were examined by the GP and received a questionnaire about their usual vaginal secretion. The questionnaires were returned by 718 (89%). 301 women who had specific symptoms (e.g. bleeding, pain) were excluded from further analysis. The remaining 417 comprised women who had a routine/control pelvic examination. Their median age was 34 years (quartiles:27–43).

The interview study

Ten women who consulted a GP in Aarhus County because of vaginal discharge were asked to participate in an interview; they all accepted. The interviews were semi-structured, using an interview guide. Before the interview the woman completed the same questionnaire as was used in the multi-practice study. During the interview the woman was asked to elaborate on the answers given in the questionnaire.

The interview guide directed the interviewer to seek information about the woman's usual vaginal secretion as well as the symptoms for which she was seeking medical advice.

The interviews were conducted by a nurse trained in interview technique. The interviews lasted from 30 to 60 minutes. They were all recorded on tape and then transcribed. The questions/answers were grouped according to the items listed in the interview guide and analysed in two stages. First, the author analysed the interview alone and, to control interpretation bias, the analysis was then done by interviewer and author together (7,8).

The interview guide and questionnaires were based on the health belief model developed for use in a general practice setting (9). The model included 1) the perceived threat of the illness, 2) the perceived value of a particular behaviour, 3) barriers to the behaviour, and 4) the locus of control, which describes the extent to which a person considers himself in control of his own health (10).

The perceived threat of illness was expressed by the woman's fear of having a serious illness or a sexually transmitted disease. The perceived value of behaviour was expressed by the woman's indication of a previous positive experience from medical treatment of vaginal discharge. A woman was considered to have a general external locus of control if she had confidence in medical treatment in general. If she expected an infection to be the cause of her symptoms she was considered to have a specific external locus of control in relation to vaginal discharge.

Definitions

In this report «vaginal secretion» is used as a neutral term for a biological phenomenon. The «present» vaginal secretion describes the woman's vaginal secretion at the time she was seen in the GP's office. This may or may not differ from her «usual» vaginal secretion. A «physiological» vaginal secretion describes a secretion which is biologically normal as opposed to an »abnormal» vaginal secretion. A woman has «vaginal discharge» if she is complaining about an increased amount of vaginal secretion.

Statistics

Statistical analysis was performed using the Chi-square test and test for trend (11).

Results

Table I shows the women's answers to the question: «Which of the following answers do you think best describes your usual discharge?».

179 (65%) women with and 111 (27%) women without complaints of vaginal discharge indicated that they were bothered by their usual vaginal secretion. Age was not related to the perception of their usual secretion (test for trend: $X^2=0.14$; $df=1$; $p=0.71$).

The interview study showed that some of the women who were bothered by their usual vaginal secretion still considered it to be normal:

Table I. The perception of the usual vaginal secretion in women with (n=283) and without (n=417) complaints of vaginal discharge.

The woman's perception	Complaints n (%)	No complaints n (%)
«I never have much vaginal discharge»	54 (20%)	198 (47%)
«I always/in periods have much discharge, but it doesn't bother me and I am not worried about it.»	41 (15%)	108 (26%)
«I always/in periods have much discharge. It bothers me, but I am not worried about it.»	90 (33%)	82 (20%)
«I always/in periods have much discharge. It bothers me and I am also worried about it.»	89 (32%)	29 (7%)
Information missing	9	0

Test for trend: $X^2=112.2$; df=1; $p<0.001$

«I mean, it's somewhat troublesome, it's sort of irritating. But I'm not nervous or afraid».

Although bothered by the usual secretion the women regarded it as a normal physiological condition:

«It's something which belongs to me. I don't think «oh no» and get embarrassed .....you sort of accept it. But nevertheless, I would rather be without it»

Many women in both groups were not only bothered by their usual secretion, but also worried about it. The reason for seeking medical advice was not necessarily a change in the secretion, but their usual secretion:

«I always have too much discharge, so I wanted to know if I was completely all right – or if it was a disease or something».

Women's perceptions of normality can be influenced by the GP. Thus, the threshold of normality had been increased for one woman following a visit to her doctor:

«... I talked to my doctor about it... and since then I haven't thought about it, because he said that it was not important.»

To the statement «the discharge is extremely uncomfortable», 83% indicated that they completely or partly agreed. The corresponding percentage for the statement «the discharge makes me feel dirty» was 85%. To the statement «the discharge destroys my sex life», 41% completely or partly agreed.

The pelvic examination did not reveal any abnormal findings in 54 (20%) women who complained of vaginal discharge (Table II). In 42 of these women it was concluded that the vaginal secretion was normal, but in 12 (22%) the GP considered that the vaginal secretion was abnormal despite normal findings.

Age was not related to the presence of an abnormal amount of vaginal secretion ($X^2=1.0$; df=1; $p=0.31$) or other abnormal findings ($X^2=0.01$; df=1; $p=0.93$).

Table III shows that the most frequently mentioned causes of the symptoms in the multi-practice study were infection (75%) and contraception (39%).

The interviews showed that some of the women had very specific assumptions about the cause of their symptoms before visiting the GP:

«Actually I knew that it was yeast, because it looked so much like what I had before.»

Table II. The general practitioner's findings during the pelvic examination in women with (n=283) and without (n=417) complaints of vaginal discharge.

Findings	Complaints n (%)	No complaints n (%)
Abnormal amount of vaginal secretion	169 (63%)	31 (7%)
Normal amount, but other abnormal findings (colour, smell, inflammation)	46 (17%)	28 (7%)
No abnormal findings	54 (20%)	357 (86%)
Information missing	14	1

Table III. The woman's evaluation of possible causes of their increased vaginal secretion (n=272). More than one cause may be indicated by the respondent.

Possible causes	Number
Infection	205 (75%)
IUD/oral contraceptive	105 (39%)
Stress	52 (19%)
Coincidence	47 (17%)
Hormonal changes	41 (15%)
Physical weakening	31 (11%)
Sexual transmission	22 (8%)
Genetic disposition	13 (5%)
Allergy	12 (4%)

Table V. The reason for the visit to the general practitioner (n=281). More than one cause may be indicated by the respondent.

	Number
Previous good experience with medical treatment	103 (37%)
Other treatment without effect	50 (18%)
The condition has got worse	114 (41%)
Symptoms are intolerable	111 (40%)
Fear of serious disease	157 (56%)
Fear of sexually transmitted disease	54 (19%)

The interviews also demonstrated that some women only considered an infection as the immediate cause of the symptoms. Behind the infection they saw an underlying cause:

> «My mother says that she has had it for years and my sister has also had it for many years. And I.. Maybe it is something hereditary.»

The multi-practice study showed that of 276 women who gave complete information, 73 (26%) had asked relatives or friends for advice and 97 (35%) had read about it. A total of 135/279 (48%) had tried self treatment and 163/279 (58%) had increased genital washings. Only 9/279 (3%) had changed their dietary habits as a reaction to the symptoms.

The majority of women considered their health in general to depend on themselves (Table IV). However, in relation to their present symptoms, only 15% partly or completely agreed that by taking precautions they could prevent vaginal discharge.

In Table V the «trigger» for the woman's visit to the general practitioner is shown. Fear of having a sexually transmitted disease and/or fear of having a serious disease was mentioned by 164 (58%). All the women who were interviewed had specific expectations of the visit to the GP. When asked if she had expected treatment when she went to see the doctor, one woman answered:

> «Yes, I definitely expected that. I mean, when it is something which comes suddenly, then it must be possible to repair it again»

This quotation also demonstrates a strong external locus of control and a mechanical health belief.

The main expectation from the consultation for others was to obtain an explanation of the cause.

The relationship between beliefs/perceived barriers and one component of behaviour is analysed in Table VI. A perception of a high degree of threat from the disease, a previous good experience from medical treatment, and an external specific locus of control in relation to vaginal discharge were all strongly related to shorter duration of symptoms before seeking medical advice.

A general external locus of control and barriers to

Table IV. The women's attitudes to statements concerning their present symptoms and health in general (n=283).

	I agree completely	I agree partly	I don't know	I disagree partly	I disagree completely	Missing information
«If I take precautions, I can prevent vaginal discharge»	5 (2%)	34 (13%)	99 (37%)	20 (7%)	113 (42%)	12
«If I wait, the vaginal discharge will disappear»	11 (4%)	19 (7%)	49 (18%)	30 (11%)	162 (60%)	12
«My health depends entirely on what I am doing myself»	68 (26%)	129 (49%)	29 (11%)	22 (8%)	16 (6%)	19

Table VI. Duration of symptoms before seeking medical advice in relation to the woman's health belief. (n = 283).

Health belief	Duration of symptoms				
	< 1 week	1–4 weeks	1–3 month	4–12 month	> 12 month
Fear of serious disease/ sexually transmitted disease					
yes	25 (15%)	44 (27%)	29 (18%)	28(17%)	38 (23%)
no	9 (8%)	26 (24%)	11 (10%)	17 (16%)	45 (42%)
information missing	–	–	–	–	–
	Test for trend: $X^2 = 8.5$; df = 1; p = 0.003				
Previous good experience with medical treatment					
yes	20 (20%)	33 (33%)	17 (17%)	14 (14%)	15 (15%)
no	14 (8%)	37 (22%)	22 (13%)	30 (18%)	68 (40%)
information missing	–	–	–	–	–
	Test for trend: $X^2 = 24.4$; df = 1; p < 0.001				
Delayed the visit for practical/economic reasons					
yes	2 (4%)	15 (33%)	9 (20%)	4 (9%)	16 (35%)
no	32 (14%)	55 (25%)	31 (14%)	41 (18%)	63 (28%)
information missing	–	–	–	–	–
	Test for trend: $X^2 = 0.4$; df = 1; p = 0.51				
«Doctors can cure most diseases»					
completely/partly agree	29 (13%)	59 (27%)	34 (16%)	35 (16%)	59 (27%)
completely/partly disagree	3 (8%)	10 (28%)	5 (14%)	3 (8%)	15 (42%)
information missing	–	–	–	–	–
	Test for trend: $X^2 = 1.4$; df = 1; p = 0.23				
Considers an infection to be the cause of symptoms					
yes	29 (14%)	56 (28%)	33 (16%)	28 (14%)	55 (27%)
no	4 (6%)	12 (18%)	6 (9%)	16 (24%)	29 (43%)
information missing	–	–	–	–	–
	Test for trend: $X^2 = 11.3$; df = 1; p < 0.001				

seeking medical care were not significantly related to the duration of symptoms before the visit.

Age was a possible confounder. However, age was not related to the duration of symptoms before the visit (test for trend: $X^2 = 0.45$; df = 1; p = 0.50). Therefore age was not included in the analysis for confounder control.

Discussion

All women of a reproductive age produce some vaginal secretion. However, its amount varies considerably between individuals (12,13). Most of the women, in both groups, noted periods of increased secretion. Though many were bothered by it, most accepted the secretion and were not worried by it. Thus, a certain fluctuation in the secretion was allowed before the threshold of normality was exceeded. A smaller group of women were worried about their usual secretion and their threshold of normality was constantly exceeded. Thus, differences in the perception of the usual secretion would cause some women to seek medical advice only when a significant increase in the secretion had occurred, while others would see the GP because they were worried about their usual secretion.

While a woman's perception relates to her personal experience, the GP's perception of what is a normal vaginal secretion relates to the average findings in a number of pelvic examinations. Therefore,

in a woman with a low physiological secretion even a major increase in the vaginal secretion which exceeds her threshold of normality may not exceed the doctor's threshold of normality. GPs may realise this, which could explain why, with some women, they concluded that the vaginal secretion was abnormal despite normal findings. On the other hand, a woman may have a secretion which is physiologically normal to her, but exceeds the doctor's threshold of normality. This was the case in 7 % of the control group.

Cultural, social, and other group specific factors influence the perception of normality (14). The present study also demonstrates that the women's perception of the usual vaginal secretion can be altered. Fear of a sexually transmitted disease can narrow the fluctuation which is tolerated as normal in the usual secretion, while the GP, on the other hand, can broaden it.

In accordance with findings of another study, most women considered that factors outside their control, in particular infections, were the direct cause of symptoms (15). Consequently, only few women indicated that by taking precautions they could prevent symptoms from developing.

Whereas most women had an external specific locus of control in relation to their present symptoms, the majority also had an internal locus of control in relation to health in general, as indicated by their agreement with the statement that their health entirely depended on themselves (Table IV).

A person's general locus of control does not necessarily reflect the person's locus of control in a specific situation. Personal experience in relation to a specific condition thus seemed to be more important than a general health belief. If this is also the case for other conditions, studies linking belief and behaviour should develop a specific belief model for each condition rather than using a person's general health belief to explain a specific behaviour.

Due to the study design, only women who went to see their doctor were included. Therefore the relationship between the women's beliefs and their decision to seek medical advice could not be addressed. However, the study demonstrates a clear relationship between women's beliefs and the duration of symptoms before the visit to the doctor.

Selection bias may have influenced some of the findings. Women with an external locus of control who believe that their vaginal discharge is caused by microorganisms that can be effectively treated with drugs will be over-represented. Women who experience barriers to seeking medical advice are also less likely to be represented in this study.

Other studies have found that a main reason for many patients to see a physician is to learn about the cause of symptoms or have their own «diagnosis» confirmed (16,17). In the present study, fear of having a serious disease or a sexually transmitted disease was a main reason for the woman's decision to seek medical advice.

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