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To Evaluate the Effectiveness of Targeted Versus Syndromic Management in Women with Abnormal Vaginal Discharge

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Abstract: ***Aim: To compare the effectiveness of Targeted management with syndromic management in achieving a complete cure for abnormal vaginal discharge. Material and Methods:- The study was carried out in patients attending Gynae OPD of SRMS IMS Hospital. It was conducted on 200 women with abnormal vaginal discharge and distributed in 2 groups A & B each consisted of 100 women. Group A underwent laboratory investigations and treatment was started as soon as reports were available. Group B was given syndromic management based on clinical presentation and risk factors. In absence of endocervical discharge and risk factors, treatment for vaginitis only is given. Follow up on 3rd day and after 2 weeks was done. Results: Among 100 women in group A (targeted management) the prevalence of bacterial vaginosis was 43%, Candida 40%, N. gonorrhea 11%, Trichomonas 3% and Chlamydia is 3%. The total response in symtpoms of vaginal discharge in group A was 77% for vaginitis, 71.4% for cervicitis and 60% in vaginitis coexsisting with cervicitis in group A compared to 50%,30% and 35% respectively in group B. Partial response was seen in 18%, 21% and 30% cases of vaginitis,cervicitis and vaginitis with cervicitis in group A compared o 14%, 20%,15% respectively in group B. Vaginal discharge with itching was relieved in 83.6% in group A and 71.4% in group B. Conclusion: Low response to treatment in syndromic management group is due to low sensitivity of clinical examination in diagnosing the nature of vaginal discharge. Hence when laboratory facilities are available, a women with abnormal discharge should be investigated for the specified causative organisms and treatment should be directed accordingly. Clinical Significance: The targeted approach increases sensitivity of treatment. It decreases overuse of drugs, lowers incidence of side-effects and increases compliance of treatment.***

Keywords: Abnormal vaginal discharge, Syndromic management, Targeted management

1. Introduction

Vaginal discharge is a distressing and a subjective symptom. A proportion of women are troubled by a discharge which is not profuse whilst others interpret a heavier discharge as normal. Symptoms of STI's and reproductive tract infections (RTI's), like vaginal discharge and ulcers, should be reported by the women themselves. Vaginal discharge is abnormal if it is yellowish, greenish or curdy white in color, mixed with blood, malodorous. It may be associated with pruritis, vulvar pain or pelvic discomfort, soreness, dyspareunia and dysuria. Abnormal vaginal discharge can be due to infective vaginitis or cervicitis. Abnormal vaginal discharge remains a common clinical problem among women of reproductive age group with multiple etiologies. It is the second commonest problem after menstrual disorders. [1] Abnormal vaginal discharge may be non-infective or infective origin. Non-infective vaginal discharge may be associated with endocervical or ectocervical polyps or tumors, vesicovaginal or uterovaginal fistulae, chemical irritants and medications, while infective vaginal discharge can be broadly categorized into vaginitis or cervicitis predominantly caused by bacterial vaginosis, candidiasis, trichomoniasis and sometimes due to bacterial infection like chlamydia or gonococcal.[2]

Infective vaginitis is predominantly caused by bacterial vaginosis, vaginal candidiasis, vaginal trichomoniasis, bacterial infection. Cervicitis is mainly caused by chlamydia or gonococcal infection. The targeted management was based on identification of causative organism and therapy against it. Syndromic management was based on risk factors - multiple sexual partners, low socioeconomic status , history of IUCD insertion, sexually transmitted infections (STIs), diabetes mellitus, oral or Injectable contraceptives, history of Steroid use.

Aim

To compare the effectiveness of targeted management with syndromic management in achieving a complete cure for abnormal vaginal discharge.

2. Material and Methods

- **Site of Study**: Department of Obstetrics and Gynaecology, Shri Ram Murti Smarak Hospital, Bareilly
- **Population of Study: 200** women who attended the Gynae OPD at SRMS IMS Hospital, in the Department of Obstetrics and Gynaecology, with abnormal vaginal discharge after fulfilling the inclusion and exclusion criteria.
- **Study Design**: Prospective case study
- **Study Period:** November 2018- May 2020

Inclusion Criteria

Age group: Women 20 to 45 years age with complain of abnormal vaginal discharge.

Exclusion Criteria

1) Unexplained vaginal bleeding
2) H/O vaginal irrigation within the previous 48 hours
3) Pregnant women/ lactating women
4) Had taken antibiotics or used a suppository within the previous 2 weeks.

Study Technique

They were divided into two groups A and B by randomization, each consisting of 100 women.

Group A were subjected to OPD procedures -

1) pH of vagina using standard pH paper
2) Wet saline mount for Trichomonas
3) KOH mount for budding hyphae
4) Laboratory procedures which includes gram staining (N.gonorrhoeae). Treatment initiated according to the organism -

For Bacterial vaginosis : tab tinidazole 2 gm single dose was given,
For Candidiasis : tab fluconazole 150 mg single dose was given and
For Trichomoniasis : tab tinidazole 2 gm single dose was given.For Gonorrhoea and Chlamydia, tab azithromycin 2 gm single dose was given.

- Group B was given syndromic management -
- If endocervical discharge or risk factors were present, then tab azithromycin 2 gm single dose + tab tinidazole 2 gm single dose + tab fluconazole 150 mg single dose given.
- If only vaginal discharge was seen, then tab tinidazole 2 gm single dose and tab fluconazole 150 mg were given.
- All the outcome parameters were expressed as number and percentages or mean ± standard deviation by computer based Statistical Product And Service Solutions (SPSS) latest version.
- Comparison of outcome parameters between the two groups was done using students
- t-test and chi square test.

FOLLOW UP: Follow up on 3rd day and after 2 weeks was done .

- On 3rd day relief in symptoms and side-effects of drugs were observed.
- Overall effectiveness of treatment compared after 2 weeks.

3. Observations

Table 1: Age Wise Distribution of Females with Abnormal Vaginal Discharge

Age Groups	*Targeted*		*Syndromic*	
	n	%	N	%
20 - 29 yrs	28	28.0%	27	27.0%
30 - 39 yrs	56	56.0%	55	55.0%
>=40 yrs	16	16.0%	18	18.0%
Total	100	100%	100	100%
Mean ± SD	32.27 ± 6.06		32.67±5.60	

The mean age was comparable in both the groups i.e. 32.27±6.06 and 32.67±5.60 years respectively.

Table 2: Distribution of Women according to Risk Factor

Risk Factor		Targeted		Syndromic		P Value
		n	%	n	%	
Lower Class Socio-Economic Status		48	48%	44	44%	0.071
Others	Oral contraceptive pills	3	3%	12	12%	0.029
	History of Steroid	0	0%	1	1%	1.000
	Diabetes mellitus	0	0%	0	0%	-
	Multiple sexual partners	0	0%	0	0%	-
	IUCD	0	0%	0	0%	-
Total		100	100%	100	100%	

Risk factors associated with vaginal discharge present were 51 & 57 cases in group A and group B respectively. Most common risk factor were lower socio-economic status i.e. 48% and 44% in group A and group B respectively.

Symptoms associated with vaginal discharge were present in 91 and 89 cases in group A and group B respectively, among them itching was most frequently associated symptom occuring in 78% and 80% cases respectively.

Table 3: Distribution of Type of Infection in Both Groups

Diagnosis	Targeted		Syndromic		P Value
	n	%	n	%	
Cervicitis	14	14.0%	10	10.0%	0.676
Vaginitis	66	66.0%	70	70.0%	
Vaginitis+ Cervicitis	20	20.0%	20	20.0%	
Total	100	100%	100	100%	

Among women of group A where vaginitis was seen in 66% followed by both vaginitis with Cervicitis in 20% cases against 70% cases of vaginitis and 20% cases of vaginitis with Cervicitis in group B revealing that both groups are comparable.

Table 4: Distribution of Causative Organism in Group A (According To Laboratory Findings)

Lab Findings	*n*	*%*
Bacterial vaginosis	43	43.0%
Chlamydia	3	3.0%
Candida	40	40.0%
Neisseria gonorrhoea	11	11.0%
Trichomonas	3	3.0%
Total	100	100.0%

Laboratory diagnosis for causative organism was done in all cases subjected for targeted treatment (group A) Bacterial Vaginosis was the most common infectious organism i.e. in 43% followed by Candida 40% cases. Chlamydia and Trichomonas were seen each in 3% cases with abnormal vaginal discharge.

On 3rd day of follow up, 68% cases in group A had total relief of vaginal discharge along with associated symptoms against 40% cases in group B. In other associated symptoms maximum relief was seen in 71.4% cases of only itching in group A followed by 68% cases of itching with dysuria whereas in 47.6% and 30.3% cases were relieved of itching and itching with dysuria in group B.

After 2 weeks of treatment, 22% and 15% of women had partial relief in vaginal discharge in group A and B respectively while 71% and 50% cases had complete relief of vaginal discharge in both groups respectively.

Table 5: Comparison Of Response To Treatment According To Type Of Infection In Both Groups

Result		Group A				Group B				P Value
		Pre- treatment		Post- treatment		Pre- treatment		Post- treatment		
		n	%	n	%	n	%	n	%	
Vaginitis	Partial	66	66%	12	18 %	70	70 %	10	14 %	<0.001
	Total			51	77 %			35	50 %	
	Not relieved			3	4.5 %			25	35 %	
Cervicitis	Partial	14	14 %	3	21.4%	10	10 %	2	20 %	0.049
	Total			10	71.4%			3	30%	
	Not relieved			1	7%			5	50%	
Vaginitis + Cervicitis	Partial	20	20 %	6	30%	20	20 %	3	15 %	0.029
	Total			12	60 %			7	35%	
	Not relieved			2	10%				50%	

Of the total cases of vaginitis complete relief of symptoms occurred in 77% cases with partial relief in 18% cases of group A compared to 50% cases of group B had complete relief and 14% with partial relief in group B which was statistically significant ($p < 0.001$).

4. Discussion

Out of 200 women in our study, about 75-76% cases in both groups where multipara while only 5-6% cases were nullipara. This might due to the fact that women of this group are more prone to vaginitis related to frequent sexual activities, pregnancy, weakening of immunity and oral contraceptive use.

Finding of our study conforms with the studies conducted by **Ibrahim et al**[3] and **Xueqiang et al**[4]. In our study maximum cases in both group A and B had thick curdy discharge i.e. 32% & 41% respectively.

Our findings of abnormal discharge was in concordance with the finding of **V Meena et al** [5] where 48% cases are with thick curdy discharge and 52% cases had white discharge.

About 91% & 89% in group A and group B respectively had associated symptoms along with vaginal discharge. The most common associated symptom was itching found in 78% cases of group A and 80% of group B. Itching alone was seen in 49% cases in group A and 42% cases in group B and was associated with dysuria in 22% and 33% cases in group A and group B respectively. Itching was less commonly associated with pelvic discomfort in our study seen only in 5% and 1% cases in group A and group B respectively. Beside itching the patient also had vaginal discharge associated with dysuria or dyspareunia seen in 10% and 3% cases of group A and 6% and 3% cases of group B respectively.

The finding of our study were similar to the study done by **V Meena et al**[5] where itching was most common associated symptom i.e. 78% however the incidence of dysuria and dyspareunia was 59% and 25% respectively which were in contrast to our observation.

In our study maximum cases of fishy odour was associated with Bacterial vaginosis i.e. 83.3% cases. Out of 47 cases having non foul smelling discharge maximum had candidal infection i.e. 57.4%. Alteration in the normal balance of vaginal bacteria & its replacement by high number of anareobic bacteria most common being Gardenella vaginosis leads to infection. The digestion processes of new bacterial community creates byproducts ammonia and environmental changes which leads to fishy odour.

These findings were similar to studies done by **V Meena et al**[5] where 79.2% cases of bacterial vaginosis had fishy odour while only 38% cases of candidal infection had non-foul smelling discharge. Our finding were also in acordance to study by **Chandeying et al**[6] where non foul smelling discharge was maximum associated with candidal infection i.e 72% and fishy odour discharge was seen in 59% cases with Bacterial

vaginosis.

Our patient's were followed up on 3rd day of treatment and after 2 weeks after for any adverse drug effect & and for relief in symptoms. On 3rd day 46% cases of group A against 60% cases of group B presented with side effect of drugs this maybe due to use of multiple drugs in syndromic approach compared to targeted therapy.

However at 2 weeks follow up , 71% cases in targeted approach (Group A) had complete cure in vaginal discharge with 22% cases having partial relief, only 7% cases had no relief where as in syndromic approach (Group B) only 50% cases had complete cure with 35% cases having persistence of symptoms. The associated symptom itching was cured in 93.8% cases in group A against 71.4% cases of group B while dyspareunia and dysuria were relieved in 66.6% & 70% cases of group A as compared to 33.3% and 50% cases of group B. Our findings were in concordance with study conducted by **V Meena et al**[5] wherein targeted group 62.5 % cases were cured completely while in syndromic group 41% women were cured.

On comparing the symptomatic relief based on presentation it was observed in our study that 77% cases of vaginitis had complete relief by targeted approach compared to only 50% cases with syndromic approach. However complete relief of symptom in cases of cervicitis was 71.4% & 30% while vaginitis with cervicitis was 60% and 35% in group A and B respectively though persistence of symptoms were more in cases having cervicitis alone or in association with vaginitis in syndromic approach compared with targeted therapy. This low response of treatment in syndromic management (group B) would be due to low sensitivity of clinical examination in diagnosing the nature of vaginal discharge. Moreover the respond of treatment in cases of cervicitis were low may be due to short treatment duration.

Our finding was not in accordance with the results of **V Meena et al**[5] where maximum relief was seen in cases of cervicitis and vaginitis with cervicitis that is 71.4% cases in each group among targeted therapy while 54% cases of cervicitis and none of patient with vaginitis along with cervicitis were relieved by syndromic approach .

5. Conclusion

Syndromic management is predicated on patient's symptoms and can be undertaken without laboratory support only on clinical presentation. When laboratory facilities are available, women with abnormal discharge should be investigated for the specified causative organisms and treatment should be directed accordingly.

It was observed that the overall improvement of symptoms in women with abnormal vaginal discharge with or without associated symptom was more in targeted approach of management. The non- specific treatment given in syndromic management of abnormal vaginal discharge leads to more side-effects and less improvement in symptoms as compared to targeted management.

The major limitation of this study was small sample size. Large randomised trials are needed to determine a definite approach in treatment of abnormal vaginal discharge.

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