A REVISIT TO THE PATTERN OF SEXUALLY TRANSMITTED INFECTIONS IN RURAL AREAS OF JAIPUR DISTRICT OF RAJASTHAN THROUGH IMPLEMENTATION OF SYNDROMIC CASE MANAGEMENT

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ABSTRACT: INTRODUCTION-Reproductive tract infections (RTIs) and sexually transmitted infections (STIs) represent a major public health problem in developing countries, so their quantification and study is very important. **METHODOLOGY**-Case records of 231 patients with RTIs and STIs who attended the Department of Dermatology and Venereology, Mahatma Gandhi Medical College and Hospital, Jaipur for a period of seven months from March 2011 to April 2013 were analysed. **RESULTS**- The total number of cases studied were 231, out of which 137 cases (59%) were males and 94 cases (41%) were females , with a ratio of males to females of 1.4 : 1. **CONCLUSION** -Male to female sex ratio came out almost equal (1.4:1). Majority of females were married 85 cases (90.42%) and almost half of the males were also married 66 cases (48.17%). Viral STIs constitute the major burden of the STI clinic and enhance the susceptibility of an individual to acquire or transmit HIV through sexual contact. Syndromic algorithms have some shortcomings, and they need to be periodically reviewed and adapted to the epidemiological patterns of STI in a given setting.

INTRODUCTION: Reproductive tract infections (RTIs) and sexually transmitted infections (STIs) represent a major public health problem in developing countries [1]. The incidence of sexually

transmitted diseases is on the increase. This has been attributed to various factors, including cultural, social, behavioural, economic, and microbiological components. [2]. Sexually transmitted diseases are dynamic and show variable prevalence in different parts of country.[3],[4],[5],[6],[7],[8]. The World Health Organization (WHO) has placed emphasis on syndromic approach for case measurement and management, particularly in high-prevalence areas having inadequate laboratory facilities, trained staff, and transport facilities [9]. Though the syndromically diagnosed STI has many limitations, continuous analysis of risk assessment and prevalence-based screening studies are necessary to evaluate and monitor the performance of syndromic management. [10] The aim of the present study was to document the pattern of common STIs in patients attending the STI clinic of a tertiary care hospital, and to evaluate the performance of syndromic case management against their laboratory diagnosis.

METHODOLOGY -The study was done on 231 consecutive patients with RTIs and STIs in the Department of Dermatology and Venereology of Mahatma Gandhi Medical College and Hospital, Jaipur for a period of twenty- six months from March 2011 to April 2013. All patients were managed on the basis of algorithms of the syndromic approach at the peripheral health center (PHC) level recommended by national AIDS control organization (NACO), India, after carrying out risk assessment. [11] All were screened for common STIs by standard microbiological methods. [12]

Urethral and endocervical swabs were collected from males and females, respectively, and subjected to direct examination by Gram staining and culture plate inoculation at the site of sample collection. A presumptive diagnosis of gonococcal infection was made on observing polymorphonuclear leucocytes (PMNLs) with Gram-negative intracellular diplococci (ICDC). If the smear showed five or more PMNLs in the absence of Gram-negative ICDC, a presumptive diagnosis of nongonococcal urethritis (NGU) was made in men.[13] Normal saline wet mount examinations were done to detect motile trophozoites of *Trichomonas vaginalis* and yeast cells for *Candida* infection. For the isolation of *Candida*, urethral/cervical discharge was inoculated on Sabouraud dextrose agar and identification was done by standard mycological techniques.[12]

A direct smear was made from the ulcer, if any, and subjected to direct examination by Gram staining and Leishman staining for the presence of multinucleated giant cells, shoals of fish bacilli, or safety pin-appearing bacilli to detect herpes simplex virus (HSV), *Hemophilus ducreyi*, and *Calymmatobacterium granulomatis*, respectively.[12]

RESULTS

TABLE 1: AGE AND SEX DISTRIBUTION OF STD PATIENTS :

SEX	≤19 YRS.	20-30 YRS.	31-40 YRS.	41-60 YRS.	≥60 YRS.	TOTAL
MALE	4	100	20	11	2	137
FEMALE	2	55	29	8	0	94

ORIGINAL ARTICLE

TABLE 2: PATTERN OF STDs IN TERTIARY CARE CENTRE :

	≤19 YRS.	20-30YRS.	31-40YRS.	41-60YRS.	≥60YRS.	TOTAL
	M F	M F	M F	M F	M F	M+F
GUDs	3	53 7	4 3	5 1	1	77
GONORRHOEA	1	5 10	1 1	2 1		21
NGU	1	9 20	2 9	3		44
CONDYLOMATA ACUMINATA		6 2				8
GENITAL MOLLUSCUM CONTAGIOSUM		4	1			5
GENITAL CANDIDIASIS		22 2	12 8	4	1	49
MIXED INFECTIONS		1 14	8	3		26

GRAND TOTAL 231

GUDs: genital ulcer disease

NGU: non – gonococcal urethritis

TABLE 3: PATTERN OF GUDs-

	≤19 YRS.	20-30 YRS.	31-40 YRS.	41-60 YRS.	≥ 61 YRS.	TOTAL
	M F	M F	M F	M F	M F	M+F
SYPHILIS	2	5 2				9
CHANCROID		4				4
LGV		1				1
GI						-
HERPES GENITALIS	1	43 5	4 3	5 1	1	63

GRAND TOTAL 77

LGV: lymphogranuloma venereum

GI: granuloma inguinale

DISCUSSION: The total number of cases studied were 231 , out of which 137 cases (59.30%) were males and 94 cases (40.69%) were females , with a ratio of males to females of 1.4 : 1. Out of 231, 195 cases (84.4%) comprised the rural population residing in suburban areas.

Out of 231 cases, 165 cases (71.42%) were married and 66 cases (28.5%) were unmarried. The maximum number of cases were diagnosed to have genital ulcer diseases (33.33%), followed by genital candidiasis total 50 cases (21.64%), out of which, 39 cases were males with candidal balanoposthitis and 11 females with candidal vulvovaginitis. Amongst GUDs, highest numbers of cases were of herpes genitalis 63 cases, followed by syphilis (9 cases) and chancroid (4 cases). Gonorrhoea was diagnosed in 21 cases (9.09%). 12 cases (5.19%) were diagnosed condylomata acuminata, 7 cases (3.03%) with genital molluscum contagiosum infection and 7 were having mixed infections.

The pattern of sexually transmitted infections and reproductive tract infections is changing when compared with that of previous years [14], [15].

A rise in the prevalence of herpes genitalis along with that of condylomata acuminata shows that the trend is similar to that in western countries, this is probably due to increased promiscuity in rural areas as well [16]. The emphasis on the syndromic approach to the management of STDs might have increased the accessibility to healthcare for these patients with STDs. Awareness about HIV and fear of contracting the STDs are likely to have influenced the risk-taking behaviour of people.

Male to female sex ratio came out almost equal (1.4:1). Majority of females were married 85 cases (90.42%) and almost half of the males were also married 66 cases (48.17%). In 69% males, history of extra-marital exposure could be elicited, while in females the corresponding percentage was 12%. This finding shows that the major source of infection for female patients was their spouse, while the premarital and extramarital exposures were major sources for males.

Algorithms based on a syndromic approach were evaluated in many different settings.[17,18] The lack of information in the algorithms leads to over diagnosis and overtreatment which expose more patients to unnecessary antibiotics which could result in the emergence of antimicrobial resistance. For example, over the past decade, strains of *N. gonorrhoeae* have been reported to develop high levels of resistance against several antimicrobial agents, previously used for the treatment of gonorrhea.[19] Indian studies have also reported an increase in the spectrum and level of antibiotic resistance of *N. gonorrhoeae* isolates in the recent year compared to that seen previously.[20]

CONCLUSION: The syndromic approach is a simple, attractive and effective approach for STD care particularly in resource-poor countries where laboratory facilities are unavailable. On balance, the advantages of the approach seem to outweigh its disadvantages. The approach is both rational and scientific. However, the decision to adopt the approach should be setting-specific considering the variations in STD epidemiology, operational issues, cost and acceptability.

Though the syndromic approach has been a major step forward in rationalizing and improving the management of STIs, but syndromic algorithms have some shortcomings, and they need to be periodically reviewed and adapted to the epidemiological patterns of STIs in a given setting.

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