

ORALLY AND SEXUALLY TRANSMITTED GONORRHEA

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ABSTRACT

Gonorrhoea can be transmitted by oral sex and is known as pharyngeal gonorrhoea and appears as pharyngitis. Patients with symptomatic gonorrhoea infection or other STDs are commonly seen in outpatient departments. Majority of them seek treatment without having adequate understanding regarding the nature of their condition. It is important for a healthy community that the members have information regarding STDs, their spread and preventive measure.

The study was conducted during the time period of six months extending from August 2013-January 2014. The data was collected from four tertiary care hospital after obtaining oral and written consent. Patients attending Urology outpatient department with a history of STD were included in the study.

Overall 410 patients participated in the study with a response rate of 82%. 315(76.8%) males and 95(23.2%) female participants. 37.8% of females and 36.5 of males with total 36.8% of participants had knowledge that PID is a complication of Gonorrhoea.

In total 16.3% of the participants knew the correct mode of transmission of Gonorrhoea with 22% females and 14.6% males with Odd ratio F/M 1.5. Regarding the best preventive measure for STD, 60.7% considers avoiding multiple sexual partners and engage in spousal relationship (53.7 and 62.8% of females and male respectively, Odds ratio F/M 0.85) is the best way followed by using condoms (20.7% of total participant with an odds F/M of 1.54).

The knowledge in patients regarding Gonorrhoea is scant hence it is essential to counter educational needs of the population regarding STD in effective and timely manner.

Key Words: Sexually transmitted disease, Gonorrhoea, knowledge, pelvic inflammatory, oral sex.

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INTRODUCTION

Gonorrhoea is a globally prevalent sexually transmitted disease in both men and women.¹ The causative organism is a gram negative bacterium 'Neisseria Gonorrhoea'.² Commonest symptoms in men are burning micturition and penile discharge. In female, it either asymptomatic or causes vaginal discharge and pain.² Majority of asymptomatic cases may go undetected so serial screening is recommended. If the gonorrhoea is untreated or undertreated it can transform into a more serious disease affecting epididymis, joints, heart and female reproductive organs.³ Children born with mother with gonorrhoea are at a higher risk of ocular infections that can lead to blindness.⁴ In addition it can facilitate other STIs like HIV, Chlamydia to infect. The gold standard diagnostic test for gonorrhoea is culture, which is highly sensitive and specific.⁵

The usual modes of transmission are through vaginal, anal or oral sex.² Women have much higher risk of getting infected with gonorrhoea (60-80%) as compared to males (20%) with a single act of vaginal intercourse with an infected partner.^{6,7}

World Health Organization (WHO) estimates that annually 62 million new cases of gonorrhoea occur worldwide.⁸ According to the (CDC), in the United States alone, 820,000 new cases of gonorrhoea occur and the most common population affected are teenagers, young adult and African American.⁹ Gonorrhoea remains the second most frequent bacterial sexually transmitted infection in the United States.¹⁰ According to WHO, gonorrhoea remains a disease with high morbidity and socioeconomic consequences, and regarded as a major public health concern globally. Untreated or undetected gonorrhoea may cause additional morbidity that may increase over all disease burden. One of the important public health strategies to reduce the gonorrhoea burden in a population is through correct and timely intervention through antibiotics.⁸

Gonorrhoea can be prevented by consistent use of condoms during sex and avoiding multiple sexual partners. It is being recommended to be in a sexual partnership with a person who has been tested negative for STD to avoid the transmission of the disease. If a patient tests positive for one STD he/she should be tested for other STD and secondary precaution should come underway.¹¹

Gonorrhoea can be transmitted by oral sex and known as pharyngeal gonorrhoea which complicates as pharyngitis. However, many times the condition exhibits no symptoms and remains undetected. The condition turns the throat red and occasionally has a whitest or yellowish discharge. The symptoms are usually same in men and women and may be present within days of contact. However casual contacts such as kissing have not found to have associated with pharyngeal gonorrhoea.¹²

The diagnosis of pharyngeal gonorrhoea rests on clinical evaluation and isolating *Neisseria* Gonorrhoea from the throat. Oral gonorrhoea can be prevented by using condoms. Condom use during oral sex has significantly reduced the pharyngeal gonorrhoea and associated with lower morbidity.¹³

Gonorrhoea is usually treated, before the definite diagnosis is made based on clinical evaluation and investigations. The conventional treatment requires medication for both gonorrhoea and Chlamydia as they occur simultaneously in many cases. The treatment includes injectable ceftriaxone which is given in combination of either azithromycin or doxycycline. The treatment is expected to continue for a week to two weeks depending on the drugs prescribed and patient is advised to restraint from unsafe sexual practices. Doxycycline has multiple side effects ranging from allergic reactions which most commonly affect oral mucosa and face to chest pain, shortness of breath and irregular heart rhythm.¹⁴

An important adverse effect of using tetracycline which is used in treatment of gonorrhoea and other infectious diseases is the yellow brownish discoloration of the teeth. The staining of the teeth is influenced by the duration of the treatment and the dosage used.¹⁵

Ayaslioglu et al, in his study followed patients using doxycycline and all developed doxycycline induced staining of the teeth which were temporary in nature and did not require cessation of the therapy. Hence it is required for a physician to consider physical and dental problems associated with the antimicrobial therapy.¹⁵

Knowledge about the disease can decrease the incidence of transmission of STD by decreasing the rate of risk taking behavior especially in the adolescents.¹⁶ Educational institution programs regarding sexual health has shown promising results to prevent the risks of sexually transmitted diseases.¹⁷

METHODOLOGY

This cross sectional study was conducted in four tertiary care hospitals of a metropolitan city of Karachi during the time period of six months extending from August 2013 to January 2014. Karachi is the largest city of Pakistan and patients all over Pakistan come to avail the medical facilities. The participants were recruited randomly. Inclusion criteria Included all patients attending Urology outpatient departments with a history of documented STD in past. The knowledge regarding chlamydia was assessed through a self-administered questionnaire. Regardless of their knowledge about the disease, at the end of answering the questionnaire they were provided with a material that had information regarding the disease and its prevention with a small session of educational class by a specialist. Also they were allowed to ask any questions regarding Gonorrhoea and other STIs.

Ethical consent was obtained from the ethical board of all four hospitals and the heads of the department of Urology from each hospital. All participants were brief regarding the nature of the research and that they can withdraw from the research any time they want before the end of study. The confidentiality of their identity and their disease will be respected and kept. The participation in the study was voluntary.

The data was collected and analyzed through Statistical Package for Social Sciences (SPSS) version 17.

RESULTS

In total, 500 patients were approached but 410 consented to remain in the study with a response rate of 82 percent. Overall there were 315 (76.8%) males and 95 (23.2%) female participants. The minimum age was 13 while the oldest participant was 87 years age. Mean age was 32 years. The maximum number of 165 (128 males, 37 females) patients were in the age group 31-45 years followed by 133 (112 males, 21 females) patients in the age group between 16-30 years (Table 1).

On assessing the knowledge of the participant regarding Gonorrhea, 37.8 percent of the females while 36.5% of male participant with total 36.8% of participants had understanding that Pelvic inflammatory disease (PID) is a complication of Gonorrhea, the female to male Odds ratio was 1.03(C.I 0.53-2.1). Overall 16.3% knew regarding the oral mode of transmission of Gonorrhea with 22% female and 14.6% male participant with Odds ratio F/M 1.5 (C.I 0.21-0.9). Regarding clinical sign and symptoms, 9.5% of the patients identified them correctly, with 19% of females and 6.66% of males and Odds ratio F/M 2.84(C.I: 1.32-1.89). In total 12.2% of the participants had information regarding the complications of Gonorrhea, with 22% of female and 9.2% of male participant (F/M Odds 2.4, C.I 0.33-1.65).

On acquiring participants perception regarding preventive measures for STDs, majority of the patients (60.7%) believed that the best preventive measure for the prevention of STDs is to avoid multiple sexual partners with 53.7 and 62.8% of females and male respectively (Odds ratio F/M 0.85 , C.I 0.3-0.87). Second most common preventive measure chosen was 'using condoms', with 20.7% of total participant with an odds F/M of

1.54 (C.I 0.9-1.34). Overall 1.95% F/M Odds 0.47 (C.I 0.45-2.67) believed that Gonorrhea can be prevented by using preventive medications, while 1.46% F/M Odds 3.32 (C.I 0.5-4.44) thought vaccination can prevent the infection. In total 6.6% Odds F/M 0.94 (1.6-10.2) did not know any preventive measure which can prevent from Gonorrhea.

DISCUSSION

Gonorrhea and other STDs are commonly seen in medical offices. In our study majority of the patients with a history of STD have not heard about pelvic inflammatory disease which is an important complication of gonorrhea and some other STIs. In a similar study conducted in the United States, it was observed that only one third of the patients with history of STD, never heard of pelvic inflammatory disease. The high rate of unfamiliarity to the disease's major complication could be due to low educational level, less health orientation and limited medical facilities as compared to the developed countries.¹⁸

In our study only 12% of the patients could identify

TABLE 1: DEMOGRAPHICS OF THE PARTICIPANTS

Age groups	Females	Males	Total in age group
0-15	3	6	9
16-30	21	112	133
31-45	37	128	165
46-70	19	39	58
70 and above	15	30	45
	95	315	410

TABLE 2: KNOWLEDGE REGARDING GONORRHEA

Questions	Female (percentage)	Male	Total	Female/Male Odds ratio (C.I)
Pelvic inflammatory disease(PID) as a complication	36 (37.8)	115(36.5)	151(36.8)	1.03(0.53-2.1)
Oral mode of transmission	21(22)	46(14.6)	67(16.3)	1.5 (0.21-0.9)
Sign and Symptoms of gonorrhea	18(19)	21(6.66)	39 (9.5)	2.84(1.32-1.89)
Complications of Gonorrhea(other than PID)	21(22)	29(9.2)	50(12.2)	2.4 (0.33-1.65)

TABLE 3: PREVENTIVE METHOD OF CHOICE (MOST EFFECTIVE) FOR STIs

Which prevention method is best for STDs	Female (percentage)	Male (percentage)	Total (percentage)	Female/ Male odds ratio C.I
Avoiding multiple sexual partners/spouse relationship	51(53.7)	198(62.8)	249 (60.7)	0.85(0.3-0.87)
Condoms	27(28.4)	58(18.4)	85 (20.7)	1.54(0.9-1.34)
Preventive Medicines	1(1.05)	7(2.22)	8 (1.95)	0.47 (0.45-2.67)
Vaccination	3(3.15)	3(0.95)	6 (1.46)	3.32 (0.5-4.44)
Don't know any	6(6.3)	21(6.66)	27 (6.6)	0.94 (1.6-10.2)
Non response	7	28	35 (8.5)	0.82

the complications of gonorrhoea other than Pelvic inflammatory disease, while Whiteside et al showed that only 20% of the patient could recognize the complication of the Gonorrhoea other than PID.¹⁸

Regarding knowledge of clinical sign and symptoms of Gonorrhoea, only 9% of participant in this study had correct knowledge regarding them, in some contrasting results, in a study by Biro et al, it was concluded that 66.6% of the patients knew the symptoms and signs of gonorrhoea.¹⁹

In this study majority of the participants (60.7%) thought that avoiding multiple partners and spouse relation is the best method for preventing STI, followed by using condom (20.7%) while only 6.6% didn't know any method to prevent STI. In a study conducted in the United States, 18% of the patients mentioned condoms as a way to prevent STD while 57% respondents did not know any method.¹⁸ In another study conducted in Nigeria demonstrated that the method choice (most effective) for preventing STD is use of condom followed by abstinence.²⁰ The trend in spousal sexual relationship and avoiding multiple partner could be due to the social and religious norms of the local culture prevalent in Pakistan where the major religion plays a basic role in social dynamics of the society and religion has a strong influence on daily aspects of life of a common citizen and prohibits extra marital relationships.²¹

In the present study, females were found more educated on overall knowledge regarding Gonorrhoea the reason could be that female adolescents discuss more sexuality topics with the parents and are more concerned regarding pregnancy hence learn more reading female sexual health.²²

A major limitation of this study was that it was conducted in only one city of Pakistan; hence the results could not be widely generalized to the region and Pakistan in particular. Another weakness of the study was that it did not inquire the participants, regarding the treatment and partner notification of gonorrhoea which is essential to counter this grave public health issue.

CONCLUSION

This study acknowledges a great need of education of patients regarding Gonorrhoea and other sexually transmitted infections, as majority of the participant were not aware of complications, clinical symptoms and mode of transmission of Gonorrhoea. Furthermore research is much needed to evaluate the reasons of visible gap in the knowledge of Gonorrhoea.

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