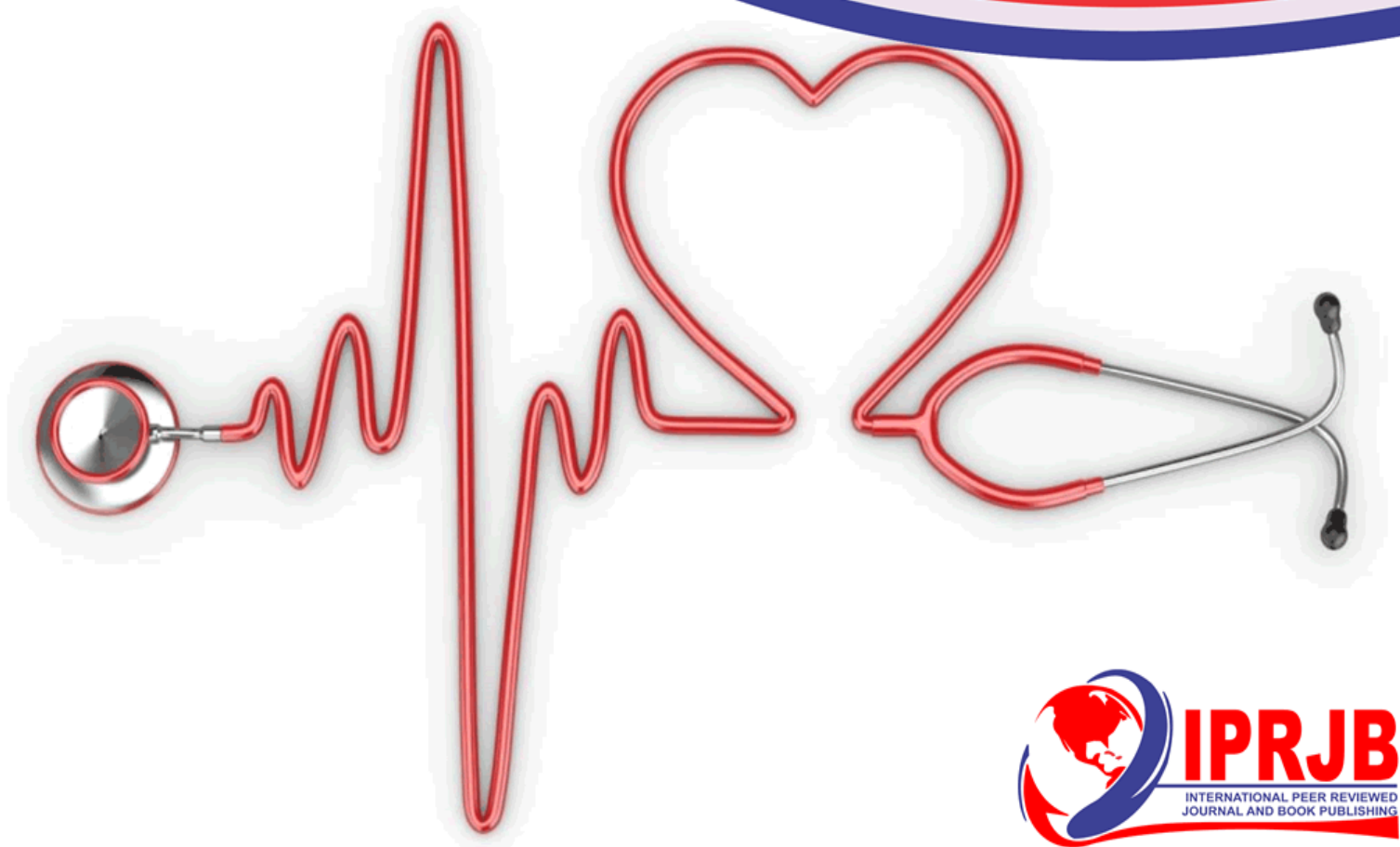


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## **KNOWLEDGE OF NURSES ON SYNDROMIC MANAGEMENT OF SEXUALLY TRANSMITTED INFECTIONS IN PUBLIC FACILITIES**

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## KNOWLEDGE OF NURSES ON SYNDROMIC MANAGEMENT OF SEXUALLY TRANSMITTED INFECTIONS IN PUBLIC FACILITIES

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### Abstract

**Purpose:** The main purpose of this study is to assess the knowledge of nurses on syndromic management of STIs in public health facilities within Kirinyaga west Sub County.

**Methodology:** The study utilized descriptive cross-sectional study design, with a target population of 70 nurses working in 16 Kirinyaga west public health facilities. The dependent variable was applying syndromic approach management of sexually transmitted infections, independent variables as knowledge and practices. The study utilized purposive sampling technique to determine the sample size of 49 nurses. The study employed the use of a questionnaire as a data collection tool and check list. A pretest of the data collection tool was conducted at Karatina sub county hospital MCH/FP

**Findings** The study findings showed that 90% of the respondents had general knowledge of what syndromic approach is though 38% were not able to identify the common STIs syndromes and 39% couldn't correctly identify the STIs that present a genital ulcer. 45% depended on laboratory investigations to diagnose and manage STIs, while 74% had not undergone any training or CME in the last 2 years on syndromic management of STIs and 96% reported that the health facilities they were stationed did not have readily available WHO/NASCOP 2015 guidelines. The respondents did not apply the syndromic approach in managing STIs and that, knowledge and practice on syndromic management of STIs among nurses in Kirinyaga west Sub County is low at 41%.

**Unique contribution to theory, practice and policy:** There is need for more awareness through capacity building among health workers managing sexually transmitted infections in the communities and therefore the study recommends county Governments to organize for trainings and CMEs on STIs/syndromic approach and identify an STIs management focal person in public health facilities.

**Keywords:** *Knowledge, Syndromic Management, STIs*

## 1.0 INTRODUCTION

Sexually transmitted infections (STIs) include those infections, which are predominantly transmitted through sexual contact from an infected partner. Although the transmission of the infections is mostly due to sexual contact, other modes of transmission include placental, by blood transfusion, infected needles or by inoculation into the infant's mucosa when it passes through the birth canal.<sup>1</sup>

The syndromic approach is an answer to many of the obstacles to efficient STIs case management in developing countries. It is based on identifying a syndrome, a group of symptoms and easily recognized signs (what the clinician finds on examination) associated with a number of well-defined etiologies. Once a syndrome has been identified, treatment can be provided for majority of the organisms responsible for the syndrome.<sup>2</sup> The presence of an untreated or mismanagement of an STI increases the risk of transmission of HIV during unprotected sex between an HIV infected and an HIV un-infected partner. STIs that cause genital ulcers (syphilis, HSV2 and chancroid) are most associated with increased risk of transmission. Despite the important role that STIs play in HIV epidemic, the focus on HIV has overshadowed the attention to STIs.<sup>3</sup>

STIs are among the world's most common infectious diseases, with an annual incidence exceeded only by diarrheal diseases, malaria and lower respiratory infections. Due to their high prevalence, particularly in developing country settings, STIs result in substantial productivity losses for individuals and communities, particularly where the majority of the population is less than 40 years of age. In developing country settings, STIs are among the leading causes of disability adjusted life years (DALYs) lost for women of reproductive age, exceeded only by maternal causes and HIV.<sup>4</sup> As the most common of all infectious diseases, every day nearly 1 million people acquire a new STI, and more than 357 million new cases of curable STIs occur throughout the world each year, with sub-Saharan Africa estimates of 65million infections 25 per 100 adults annually.<sup>5</sup> Some of the complications of misdiagnosed and mismanaged STIs are; infertility, congenital abnormality, adverse neurological conditions, CVS risks, ectopic pregnancy and even premature death of neonates.<sup>7</sup>

According to the Kenya Service Provision Assessment report, in a health workers interview, 80% of health care workers reported having basic training on STI management. 50% of the interviewed providers reported that they had received training related to STIs management during the year before the survey. Only 25% reported applying the syndromic algorithm in their practice while managing STIs and 40% of the health care providers reported not always do they perform a physical exam on clients presenting with complains of an STI. This reflected that most of the health care workers, lacked sensitization on the revised versions of syndromic approach in management of STIs.<sup>8</sup>

One of the supportive elements for STI prevention and control is training. Training ensures that adequate STI management standards are met by all members of the health care team.<sup>9</sup> Adequate training does not involve only biomedical aspects of STI diagnosis, treatment and prevention; it includes provider attitudes, beliefs and social stigma effects, confidentiality.<sup>10</sup> Although basic training is ideally provided to every health Professional involved in any aspect of STI

management as a foundation, with the current revised STI management tools (syndromic approach) there is need for refresher training or continuing education based on program monitoring and evaluation.<sup>11</sup>

In a study carried out in rural Vietnam, suboptimal knowledge and reported practice found among healthcare providers in rural Vietnam imply the urgent need of interventions to improve STI knowledge and practice for providers at grassroots healthcare level.<sup>12</sup> In a study carried out in Karachi, Pakistan among general practitioners (GP) and medical specialist concluded that; GPs are deficient in appropriately managing and counseling of patients unlike specialist. The study suggested that Karachi doctors should be educated in the correct management and counseling of STIs to prevent further spread of STIs including HIV.<sup>13</sup>

According to a 2015 study in Gofa Zone, south Ethiopia knowledge of clinicians on syndromic management of STIs was 27.2%, only 8.3% follow the national guideline and few were trained on syndromic management of STIs. The general compliance with the recommended national guidelines of STI management is poor. In general the study indicated that the knowledge and practice of clinicians regarding syndromic management of STIs in public health facilities is poor. And that effort should be made to increase the knowledge of clinicians by providing training on syndromic management of STIs after training, there is need for supportive supervision to monitor and evaluate the actual performance of clinicians regarding syndromic management of STIs.

STIs are fairly common in Kenya, but the full scope of treatment is not available in most facilities. Almost all facilities (94%) offer STI services as a primary service, usually in the general outpatient, as well as in the family planning services area and the ANC service area. STI services are available five days per week in 95% of facilities that offer the service. About two-thirds of facilities offering STI services have STI services integrated into FP services. More than half of facilities offer STI services in ANC, FP, and general outpatient areas which are mostly serviced by Nurses, 55% of the health facilities had guidelines for STI management and half of the interviewed providers reported having received training related to STI management during the year before the survey. Only about half of facilities provided this level of training to STI service providers (KSPA, 2010).

## **2.0 METHODOLOGY**

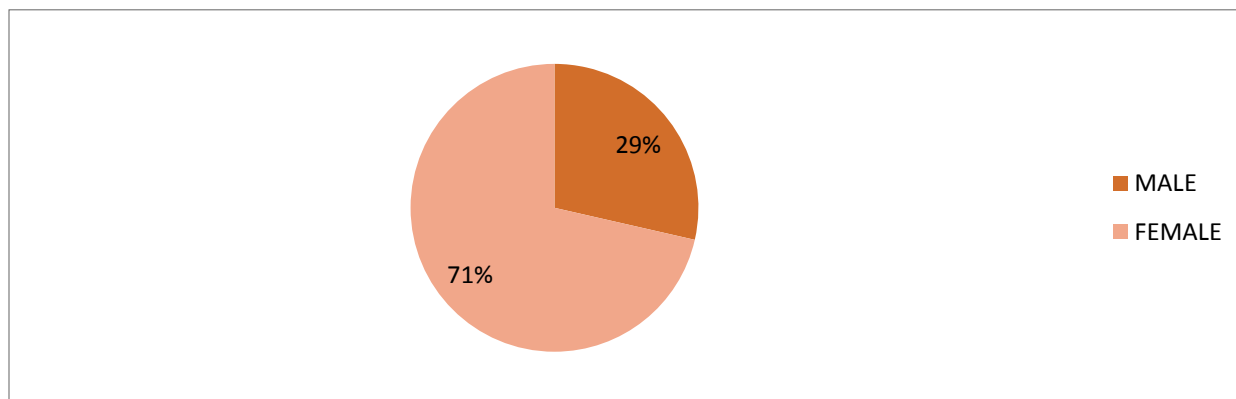
The study utilized descriptive cross-sectional study design, with a target population of 70 nurses working in 16 Kirinyaga west public health facilities. The dependent variable was applying syndromic approach management of sexually transmitted infections, independent variables as knowledge and practices. The study utilized purposive sampling technique and a formula designed by Fisher et al to determine the sample size of 49 nurses.<sup>14</sup> The study employed the use of a questionnaire as a data collection tool and check list. A pretest of the data collection tool was conducted at Karatina sub county hospital MCH/FP to enhance the reliability and overall validity of the collection tool and research study; representing 10% of the questionnaires were used in pretesting. Data collected was analyzed by use of descriptive data analysis using SPSS version 20 and presented using tables, coordinate graphs and pie charts. The researcher sought a voluntary informed consent of participants before administering the questionnaire, assuring respondents confidentiality.

## 4.0 RESULTS

### 4.1 Demographic Results

#### 4.1.1 Sex of the Respondents

This pie chart represents sex of the respondents.

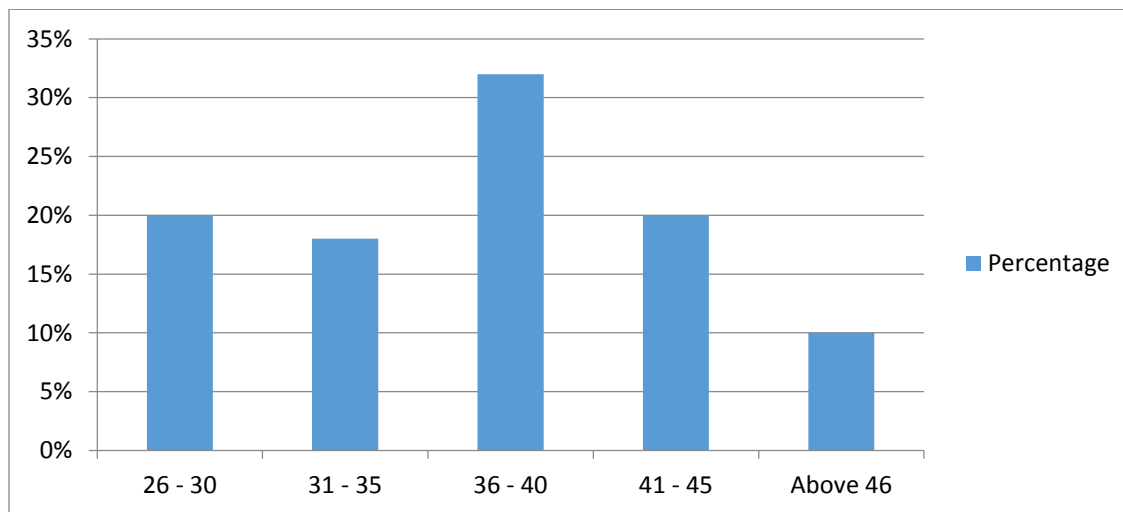


*Figure 1: Sex of the respondents*

Figure 1 shows that majority 71% (n=35) of the respondents are female while 29% (n=14) are male.

#### 4.1.2 Age of Respondents

Graph below represents the age of respondents



*Figure 2 : Age of respondents*

Figure 2 shows that majority 32% (n=15) of the respondents are between 36 to 40 years followed by 41 to 45 years 20% (n=10), 26 to 30 years 20% (n=10), 31 to 35 years 18% (n=9) and those above 46 years are at 10% (n=5).

#### 4.1.3 Respondents Nursing Qualifications

This table represents the nursing qualifications of respondents.

**Table 1: respondents nursing qualifications**

	HIGHEST QUALIFICATION	NURSING FREQUENCY	PERCENTAGE
1	Enrolled nurse	12	24%
2	KRCHN/KRN/KRM	35	71%
3	BSc Nursing	2	5%
4	Any other	0	0%

It indicates that the highest nursing qualification is KRCHN/KRN/KRM 71% (n=35) followed by Enrolled nurse at 24% (n=12), BSc Nursing qualification at 5% (n=2).

#### 4.1.4 Respondents Years of Experience Working As a Nurse

This is a table representing respondent's years of working experience.

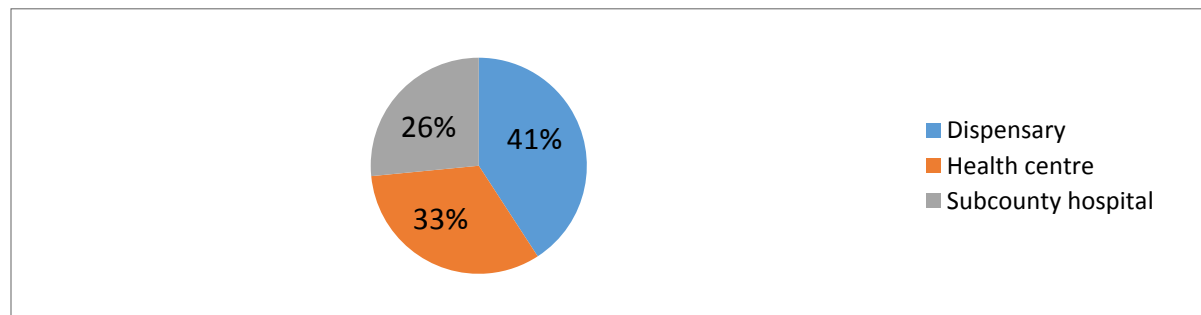
**Table 2: respondents years of experience**

	YEARS WORKED AS A NURSE	FREQUENCY	PERCENTAGE
1	Less than one year	0	0
2	1 – 5 years	3	6
3	6 – 10 years	10	21
4	11 – 15 years	26	53
5	16 – 20 years	6	12
6	Above 20 years	4	8

Table 2 shows that majority 53% (n=26) of the respondents have served for 11 – 15 years followed by, 21% (n=10) 6 – 10 years, 12% (n=6) 16 – 20 years, 8% (n=4) above 20 years, 6% (n=3) 1 – 5 years.

#### 4.1.5 Level of Health Facility of Respondents

The pie chart below represents the level of health facility respondents are working.



**Figure 3: Level of health facility of respondents**

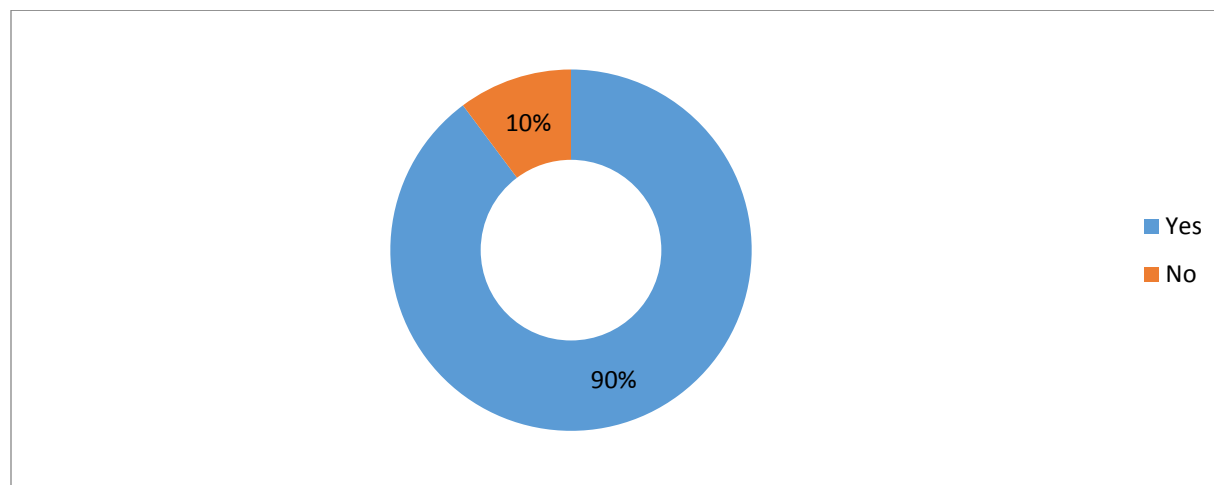
Figure 3 indicates that majority 41% (n=20) worked in the dispensaries, 33% (n=16) worked in health centres and 26% (n=13) worked in the sub county hospital.

## 4.2 Nurses knowledge on syndromic management of sexually transmitted diseases

This section presents data and analysis of respondent's knowledge on syndromic management of sexually transmitted diseases.

### 4.2.1 Awareness of Syndromic Approach Management of STIs?

This is a doughnut representing respondent's awareness of syndromic management of sexually transmitted infections.



**Figure 4.** responses on whether nurses are aware of syndromic management of STIs

Figure 4 shows that 90% (44) are aware of syndromic approach management of STIs while 10% (5) are not.

### 4.2.2 Respondents Knowledge on Common STI Syndromes

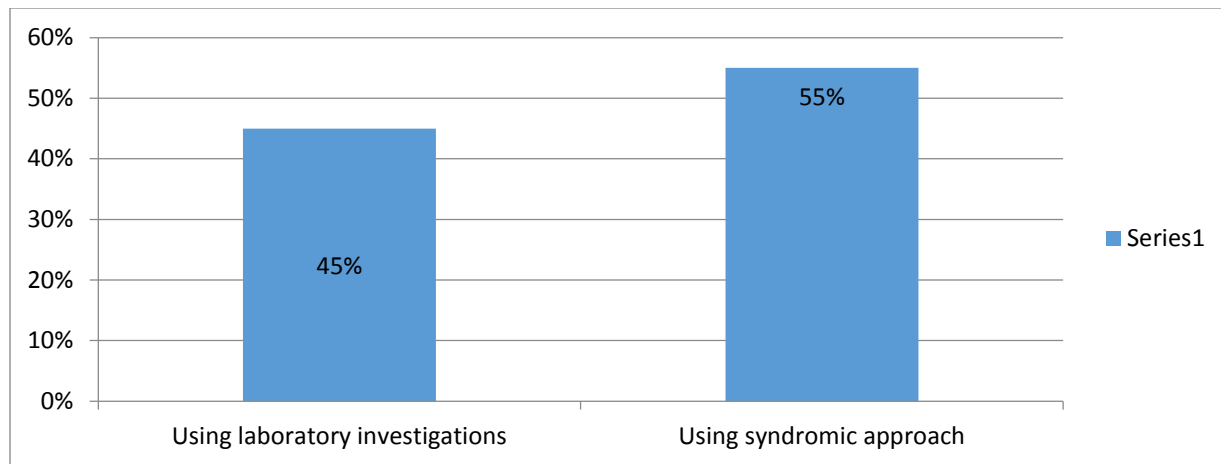
This is a table showing respondents knowledge on common STI syndromes according to syndromic approach.

**Table 3** respondent's knowledge on common STI syndromes

	Frequency	Percentage
Urethral discharge in male	4	8
Vaginal discharge or pruritus	5	10
Ophthalmia neonatorum	0	0
Male and female genital ulcer disease	0	0
Lower abdominal pain in women	0	0
All of the above	30	62
None of the above	0	0
I don't know	10	20

Table 3 shows that only 62% (n=30) of the respondents have knowledge of the common STI syndromes while 20 (n=10) did not know, 10% (n=5) responded to vaginal discharge or pruritus and 8% (n=4) responded to urethral discharge in male as common STI syndromes

#### 4.2.3 Respondents Knowledge on How They Diagnose and Manage STIs

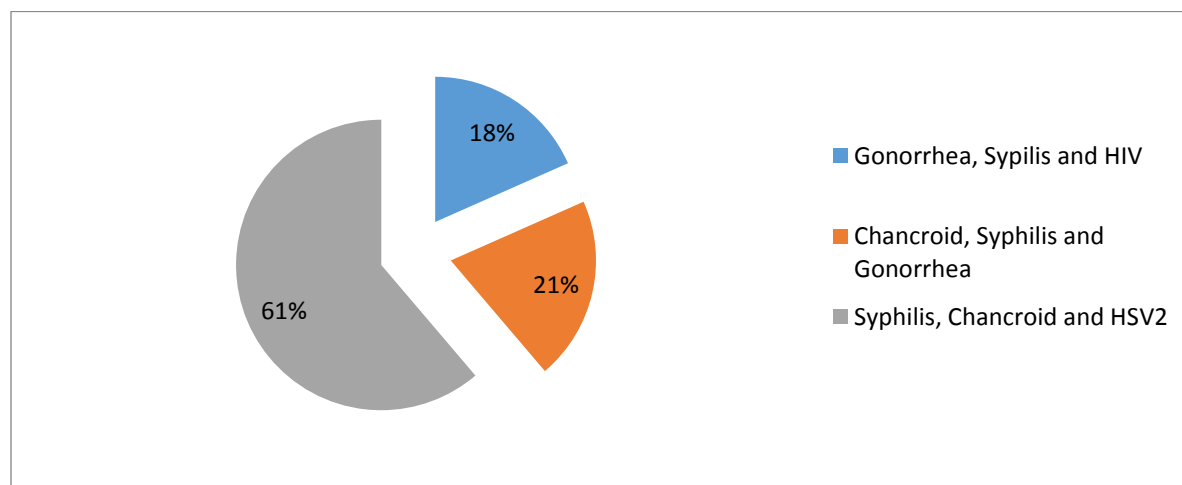


**Figure 5 Response on knowledge of how they diagnose and manage STIs**

Figure 5 indicates that 55% (n=27) of the respondents use syndromic approach, while 45% (n=22) use laboratory investigations to diagnose and manage STIs.

#### 4.9 Respondents knowledge on the three STIs that present with Genital Ulcers

Pie chart showing respondents knowledge on the STIs that present with genital ulcers.



**Figure 6 responses on knowledge of three STIs that present with Genital Ulcer**

Figure 6 indicates that majority 61% (n=30) responded correctly to syphilis, chancroid and HSV2 as STIs presenting with genital ulcers. While 21% (n=10) responded to chancroid, syphilis, gonorrhea and 18% (n=9) responded to gonorrhea, syphilis, HIV as STIs presenting with genital ulcers.



### 4.3 Respondents Knowledge on Treatment of Choice for a Client with a Genital Ulcer That is Allergic to Penicillin

Table representing knowledge on treatment of choice for a client with a genital ulcer, that is allergic to penicillin.

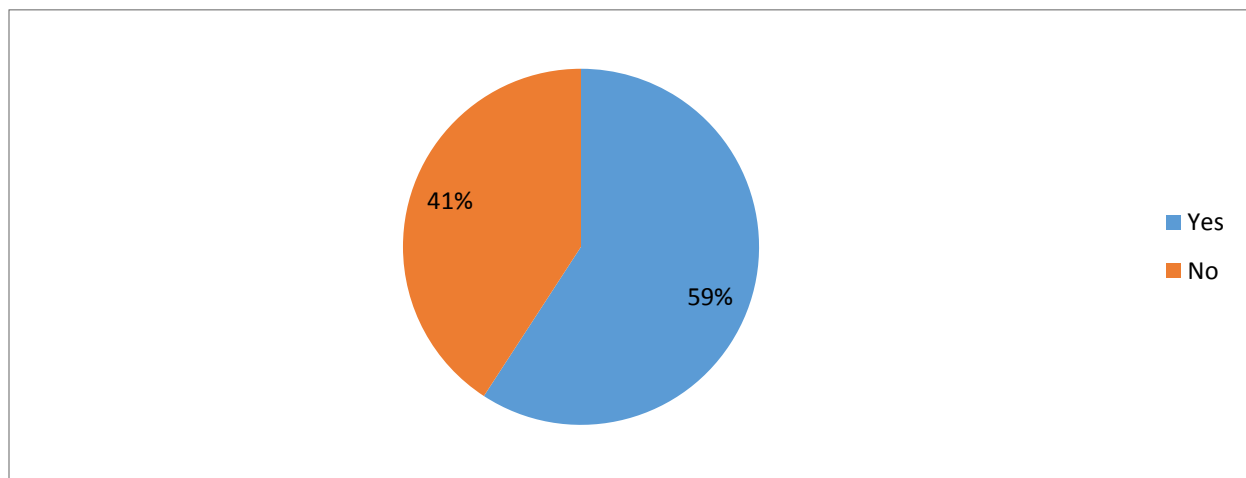
**Table 4: respondent's knowledge on treatment of choice for a client with a genital ulcer that allergic to penicillin**

Treatment	Frequency	Percentage %
Benzathine penicillin	0	0
Doxycycline	0	0
Azithromycin	42	86
I don't know	7	14

Table 4 shows that majority of the respondents 86% (n=42) treatment of choice for a patient with a genital ulcer allergic to penicillin is Azithromycin while 14% (n=7) did not know the treat of choice.

#### 4.3.1 Respondents Knowledge on Whether Laboratory Investigations are Required in Syndromic Management of STIs.

The following pie chart presents knowledge on whether laboratory investigations are required in syndromic approach.



**Figure 7 whether laboratory investigations is a requirement in syndromic approach management of STIs**

Figure 7 indicates that 59% (n=29) of the respondents are of the idea that laboratory investigations is a requirement in syndromic approach management of STIs, while 41% (n=20) said that it is not a requirement.

#### 4.3.2 Respondents Knowledge on at What Point are you Supposed to Consider Referring a Client For Investigations According to the Syndromic Approach Management of STIs.

The following table presents knowledge on when to consider referring a client for investigations according to the syndromic approach.

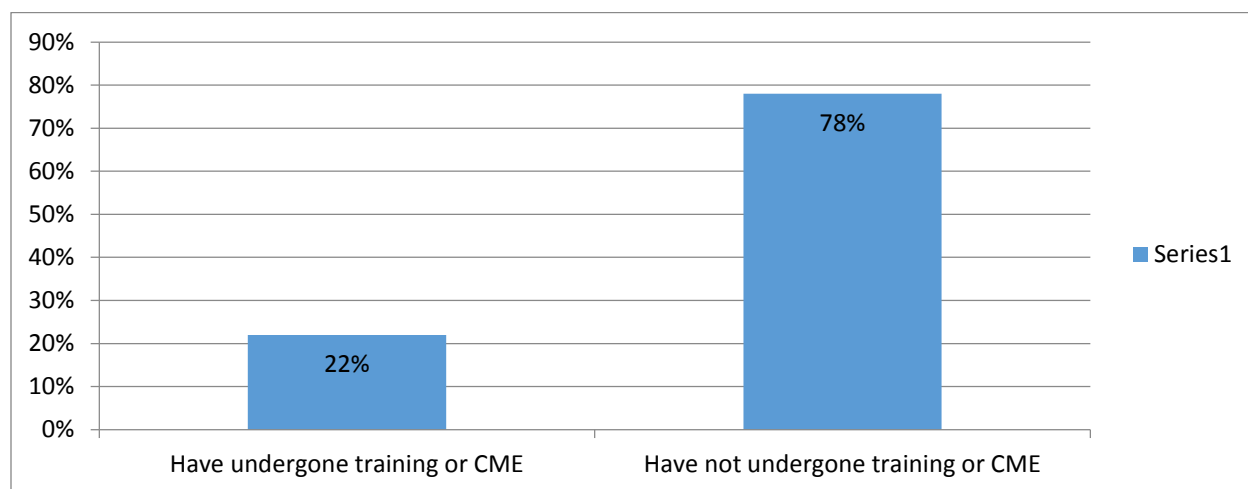
**Table 5 Response on knowledge of at what point you should consider referring a client for investigations**

	Frequency	Percentage %
If discharge persists after 7 days of treatment of vaginal discharge or pruritus	41	84
No need for referring	5	10
I don't know	3	6

Table 5 shows that 84% (n=41) of the respondents consider referring clients when there is persistent discharge after 7 days of treatment of vaginal discharge or pruritus. 10% (n=5) of the respondents see no need to refer patients for investigations at any point of the syndromic approach, 6% (n=3) of the respondents did not know.

#### 4.4 Respondents Undergoing a Training or CME within the Last Two Years on Syndromic Management of STIs.

Graph presentation on percentage of respondents who have undergone training or CME on syndromic approach in the last two years.



**Figure 8: respondents undergoing a training or CME within the last two years on syndromic management of STIs.**

Figure 8 indicates that 78% (n=38) of the respondents have not undergone any training or CME in the last two years on syndromic management of STIs. While 22% (n=11) of the respondents have undergone a training in the last two years, as part of the curriculum in nursing education upgrading programs which they had enrolled in.

#### 4.4.1 Respondents Knowledge on the 4cs of Good STI Management

The table below presents respondents knowledge on the 4Cs of syndromic approach.

**Table 6 respondent's knowledge on the 4Cs of good STI management.**

4Cs	Frequency	Percentage
Compliance, consistency, conformity and counseling	2	4
Counseling, condoms and contact treatment	42	86
Counseling, consistency and conformity	5	10

Table 6 most of the respondents 86% (n=42) have knowledge of the 4Cs of STI management, while a few 10% (n=5) and 4% (n=2) could not respond to the 4Cs of STI management.

#### Discussion

Majority of the respondents 71% were females, remaining 29% were male, most of them 32% were between 36 to 40 years having a small number above 46 years. Seventy one percent of the respondents are registered nurses having basic training in STIs management, 53% had 11 to 15 years of working experience while 8% had 20 years and only 6% had 1 to 5 years of work experience this shows most of the respondents have experience in managements of patients presenting with various conditions. Most nurses 41% were stationed in dispensaries; all respondents offered STIs management integrated with other services. This partly agrees with study findings that, almost all facilities (94%) offer STI services as a primary service, usually in the general outpatient, as well as in the family planning services area and the ANC service area. STI services are available five days per week in 95% of facilities that offer the service. About two-thirds of facilities offering STI services have STI services integrated into FP services.<sup>7</sup> It also relates with a study finding that, more than half of facilities offer STI services in ANC, FP, and general outpatient areas which are mostly serviced by Nurses.<sup>11</sup>

Almost all 90% of the respondents have general knowledge on syndromic approach management of STIs, only 10% had no idea what it is. 62% of the respondents had knowledge on the common STI syndromes; urethral discharge in male, vaginal discharge or pruritus, ophthalmia neonatorum, male/female genital ulcer and lower abdominal pains in women. It agrees with a study that, although basic training is ideally provided to every health Professional involved in any aspect of STI management as a foundation, with the current revised STI management tools (syndromic approach) there is need for refresher training or continuing education based on program monitoring and evaluation.<sup>11</sup>

Forty five percent of the respondents depend on laboratory investigations to diagnose and manage STIs which indicates that they do not follow the syndromic approach algorithm which largely focuses on symptomatic presentation. This delays treatment of those presenting with symptoms of an STI, which is against a WHO report stating that, STI control in low and middle income countries has been shaped by clinical case management guidelines promoting syndromic management. This approach uses algorithms based on groups of genital symptoms to guide STI treatment for people seeking care, without the use of laboratory tests. Syndromic management is

simple, assures rapid, same day treatment, and avoids the expensive diagnostic tests that are often unavailable in resource limited settings; it's cost effective.<sup>11</sup>

Thirty nine percent of the respondents could not correctly identify the STIs that present with a genital ulcer which are syphilis, chancroid and HSV2. More than half of the respondents 59% mentioned that a laboratory investigation is a requirement in syndromic approach contradicting focus on syndromes and symptomatic presentation. while 84% of the respondents correctly mentioned at what point it should be considered to refer a client for investigations .This is in agreement with a study by carried out in rural Vietnam that, suboptimal knowledge and reported practice found among healthcare providers in rural Vietnam imply the urgent need of interventions to improve STI knowledge and practice for providers at grassroots healthcare level.<sup>12</sup>

Majority of the respondents 74% have not undergone training or continuous medical education in the last two years on syndromic management of STIs which is indicative that majority of nurses are not updated on the 2015 WHO/NASCOP guidelines on syndromic approach . Which is in agreement with a 2015 study in Gofa Zone, south Ethiopia on knowledge of clinicians on syndromic management of STIs was 27.2%, only 8.3% follow the national guideline and few were trained on syndromic management of STIs. The general compliance with the recommended national guidelines of STI management is poor, hence recommended need for refresher training or continuing education based on program monitoring and evaluation.

Though majority of the respondents 86% were able to identify and mention the 4Cs of STIs management supporting a CDC 2013 study finding that, basic training is ideally provided to every health Professional involved in any aspect of STI management as a foundation.

### **Conclusion**

Majority at of the respondents 90% had general knowledge of what is syndromic approach management of STIs, though some of them 39% were not able to identify the common STIs syndromes and STIs that present with a genital ulcer which is an important aspect in timely identification and management of STIs.

Most of the respondents 45% did not follow the syndromic algorithm by depending on laboratory investigations to diagnose STIs hence delaying treatment; this is a contributing factor to the complications related to STIs.

### **Recommendation**

Based on the study;-There is need for trainings and CMEs on STIs/syndromic approach and identifying STIs management focal persons in the 16 public health facilities. The identified focal person through OJTs and health facility CMEs to encourage and strengthen nurses skills in practice of managing STIs. There is need for provision of syndromic approach guidelines to be available in all the public health facilities and the updated 2015 syndromic algorithm (flow chart) is displayed in all service delivery points.

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