

## Barriers To Cervical Cancer Screening Among Nurses Working At Thika Level 5 Hospital

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### Abstract

**Background:** Cervical cancer prevention and control programs, aims at primary prevention, early detection, diagnosis, treatment and palliative care. Secondary prevention targets women aged 25 to 49 years and the aim is to screen and treat cervical cancer precursor lesions. Cervical cancer mortality and morbidity has drastically declined in developed world mainly due to reliable cervical cancer screening strategies which have been in use for a long time. In Kenya, barriers to cervical cancer screening exist among healthcare workers especially nurses. In order to improve cervical cancer screening coverage in Kenya, the government through the ministry of health developed strategies aimed at reduction of barriers related to cervical cancer screening, but barriers among nurses may be different from the general population.

**Objective:** To establish barriers to cervical cancer screening among nurses working at Thika level 5 hospitals.

**Design:** A descriptive cross-sectional design was used

**Setting:** The study was conducted at the Thika level 5 hospital, Kiambu County, Kenya.

**Population:** The study targeted all nurses working at the Thika Level 5 hospital.

**Results:** The study findings indicate existence of numerous barriers of cervical cancer screening; ignorance, being screened for cervical cancer by a colleague, lack of personal susceptibility for cervical cancer and afraid of positive cervical cancer test results.

**Conclusions:** There is need for the hospital management to address the barriers that make nurses of Thika Level 5 Hospital opt to be screened for cervical cancer in other centres ignoring the two centres operated in the hospital. This strategy would hopefully improve cervical cancer screening rate among nurses of this facility.

**Recommendations:** The study recommends similar studies to establish barriers to cervical cancer screening by nurses in other Counties in Kenya.

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### I. Introduction

Screening barriers must be minimized to achieve the benefits of cervical cancer screening. Fewer barriers mean high success chance for cervical cancer screening program (WHO 2013b, p.21). A study done in America on a decision theory perspective on why women do or do not decide to go for cancer screening, found out that fear of the screening test outcome can keep some women away from screening centres and they may not even benefit from preventive health information because women who fall in that category also tend to ignore such information (Kelly & Stephanie 2009).

A study done in Nigeria revealed that, cost of screening is a barrier of cervical cancer screening especially in countries that lack subsidy on screening programs. Lack of adequate medical insurance cover can make some nurses not to be screened particularly in countries that use Pap smear as the only method of cervical cancer screening (Awodele et al 2011). Cost of test, lack of time to go for screening, invasive nature of the screening procedure, and fear of the results are some of the barriers that would make some nurses to abstain from being screened for cervical cancer (Oyedunni & Opemipo 2012). According to a study done in Tanzania on knowledge on cervical cancer and screening practices of nurses at a regional hospital in Tanzania: ignorance, fear of the screening test results, and cost of test is the main barrier that would make majority of nurses not be screened for cervical cancer (Urasa & Darj 2011)

A study done in Kenya on opportunities and challenges facing cervical cancer managers in Kenya indicate that, negative attitude towards cervical cancer screening by clients and health workers and cultural influences especially when it comes to revealing one's nakedness to non spouse or non female health providers are the main hindrances to cervical cancer screening practice in Kenya (Bitok et al. 2013). In order to improve cervical cancer screening coverage in Kenya, the government through the ministry of health developed some

important strategies aimed at reduction of ignorance, fear, embarrassment and stigma related to cervical cancer, informing public on availability of screening services, and to empower communities with information that can enhance decision making/health seeking behavior (MoPS & MoMS 2012c, p. 5-11).

## II. Materials And Methods

### Research design

This was a descriptive cross-sectional study aimed at determining barriers to cervical cancer screening among nurses at the Thika Level 5 hospital.

### Study area

The study was conducted in Thika level 5 hospital, a public hospital owned by the Ministry of health, County government of Kiambu, Kenya. Thika sub-county covers an area of 1,960.2 sq Km<sup>2</sup> and has a population of 700,912 people. The hospital serves as a referral hospital for many government, faith based, non-governmental organizations and private health facilities within and outside Thika Sub-county. The hospital has a capacity of 300 beds and a total of 460 staffs: 264 nurses, 12 consultant doctors, and 15 medical officers among other cadres. Services offered at the hospital include: preventive, health promotive and curative services to include: maternity services, medical, surgical, accident and emergency, diagnostic, maternal child and family planning, HIV screening and management, hospice and palliative clinics, and other health related services.

**Study population:** The study targeted all nurses working at Thika Level 5 Hospital.

**Inclusion criteria:** Nurses working at the Thika Level 5 Hospital

**Exclusion criteria:** Nurses working at Thika level 5 hospital who did not consent.

### Sample size determination

The sample size was calculated using Fisher et al formula (as cited in Mugenda & Mugenda 2003, p. 44)

The number of female nurses at Thika level 5 hospital by December 2013 was 240 nurses. The sample size will be determined using the following formula:

$$n = \frac{Z^2 pq}{d^2}$$

Where: n = the desired sample size

Z = the standard normal deviation at the required confidence level

P = the proportion in the target population estimated to have the characteristics being measured

q = 1 - p

d = the level of statistical significance set

Since there were no estimates available of the proportion in the target population with the characteristics of interest, 50% was used as recommended by Fisher et al (as cited in Mugenda & Mugenda. 2003, p.42-44).

$$n = \frac{(1.96)^2 (0.5)(1-0.5)}{(0.05)^2}$$
$$= \frac{3.8416 (0.25)}{0.0025} = 0.9604$$
$$= 384.16 = 384 \text{ subjects}$$

Since the population size is less than 10000, the final sample estimate (nf) was calculated using the formula:

$$nf = \frac{n}{1 + (n/N)}$$

Where: nf = The desired sample size (when population is less than 10000)

n = the desired sample size (when population is more than 10000)

N = the estimate of the population size (240)

Nf = 384

1 + (384/240)

= 384 ÷ 2.6 = 152.69 respondents.

153 + 10% none respondents = 153 + (10% of 153) = 153 + 15.3 = 168 participants

### Sampling technique

Systematic random sampling technique was utilized to select a calculated sample of 168 participants from the sampling frame of 240 female nurses of Thika Level 5 Hospital. The researcher got the list of nurses working at Thika level 5 hospital from the nursing officer in-charge, the sampling interval was then calculated by dividing the total population by the sample size to get the nth name: 240/168 = 1.47 therefore every 2rd name was sampled. A random number was picked using table of random numbers and this formed the starting point

from list of names of eligible nurses where every second name was sampled until the desired sample size of 168 was achieved then sampled nurses were traced and included in the study after consenting to participate.

#### **Dependent variable**

The dependent variable were barriers to cervical cancer screening.

#### **Data collection procedure**

##### **Instrument**

A semi-structured questionnaire was used to collect quantitative and qualitative data consisting of demographical data of the respondents and barriers to cervical cancer screening.

##### **Reliability and validity**

The investigator and the research assistants conducted a pre-test of the research tool at Mathari hospital in Nairobi on January 20<sup>th</sup>. A total of 12 participants (7.4%) were used as recommended by Julious (2005) as quoted in George and Gordon (2010). After the pre-test, amendment of the research tool was done by eliminating unnecessary questions, questions which were not clear were re-phrased and this further improved both its validity and reliability.

#### **Data collection process**

The questionnaires were administered by the researcher and the research assistants to the respondents and they were allowed adequate time to fill them before collection within the same day. A written consent was obtained from the respondents before they were allowed to fill the questionnaires. The questions were short and specific, the researcher used systematic random sampling and followed up on those who delayed to respond, this helped in minimizing selection bias.

#### **Data management and analysis**

Filled questionnaires were screened and carefully scrutinized for completeness and correctness. The principle investigator held progress meetings with research assistance every 2 days or as need arose. Data was entered into the computer software for analysis (SPSS version 22.0) wrongly answered and incomplete tools were omitted during the data entry process. Data was tabulated: arranged into concise and logical order, descriptive and inferential statistics calculated. Analyses of variance were used to find out the statistical significant differences between variables and associative correlations used to show strength of relationship between variables. Quantitative data was presented in frequency distribution tables, and percentages. Qualitative data was organized and categorized then themes and patterns established, analyzed quantitatively then presented in tables and pie charts.

#### **Ethical considerations and clearance**

Mt. Kenya University Ethics Review Committee (ERC) reviewed the proposal for ethical consideration and approval to conduct this study was given. The proposal was also reviewed and study approved by the Research and Ethics Committee of Thika Level 5 Hospital. Permission to access the wards was granted by the respective ward in-charges. The respondents were explained about the study in detail, participants who agreed to participate gave a written consent. The obtained data was treated privately and name tags were not used that could link responses to particular participant. The study caused no physical or psychological injury to the respondent and all the tools used in carrying out this study were put under lock and key. The participants' names were not required in any of the guides or any other document to ensure anonymity

### **III. Results**

On social-demographic characteristics, there were five questions that included age, level of training, years of job experience, marital status, and religion.

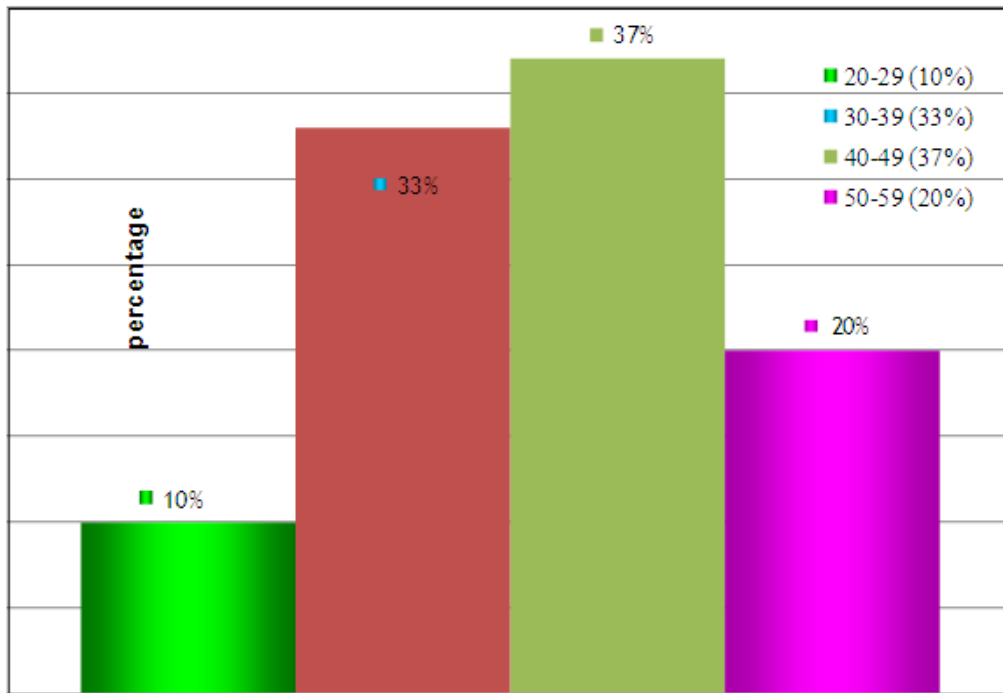
To determine barriers to cervical cancer screening by nurses, there were three questions i.e strongest reason that would make nurses not take a cervical cancer screening test, if respondents considered themselves at risk of cervical cancer, and whether they believed screening for cervical cancer is beneficial.

A total of 163 (response rate of 97%) nurses participated in the study: their knowledge on cervical cancer, proportion screened for cervical cancer, and barriers to cervical cancer screening was determined.

#### **Social demographical characteristics**

##### **Age of the respondents**

Respondents in this study were asked to state their ages:



**Age characteristics of respondents (N=163)**

About 10% (16) of the respondents were between 20 and 29 years, 33% (54) were between 30 and 39 years, 37% (60) were between 40 and 49 years while 20% (33) were between 50 and 59 years as shown in figure above

**Level of training**

10% (17) of the respondents were enrolled nurses, 81% (132) were diploma holders, and 7% (12) were BSNs, while masters accounted for 2% (2).

**Level of training**

Level of training	Frequency	Percentage (%)
Certificate	17	10%
Diploma	132	81%
BScN	12	7%
MScN	2	2%
Total	163	100%

**Respondents' years of job experience**

Years of nursing practice varied: Those with 1-10 years accounted for 24% (39), 11-20 years 52% (84), 21-30 years 20% (33), and those with work experience of more than 30 years were 4% (7) as shown in the table below.

**Years of job experience**

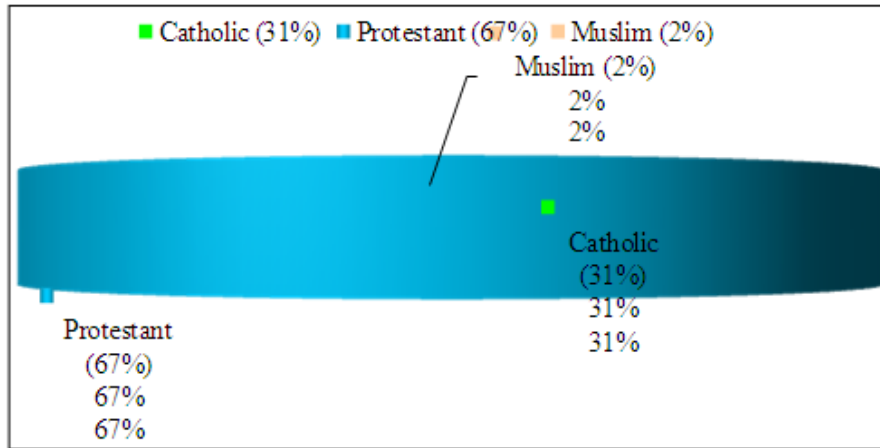
years of job experience	Frequency	Percentage %
1-10 YRS	39	24
11-20 YRS	84	52
21-30 YRS	33	20
>30 YRS	7	4
Total	163	100

**Respondents' marital status**

Respondents were asked to indicate their marital status: 24% (39) were single, 71% (115) were married, 1% (2) was divorced, 2% (4) were separated, while 2% (3) were widowed.

**Religion of respondents**

Respondents were asked to indicate their religion, the results are as shown below.

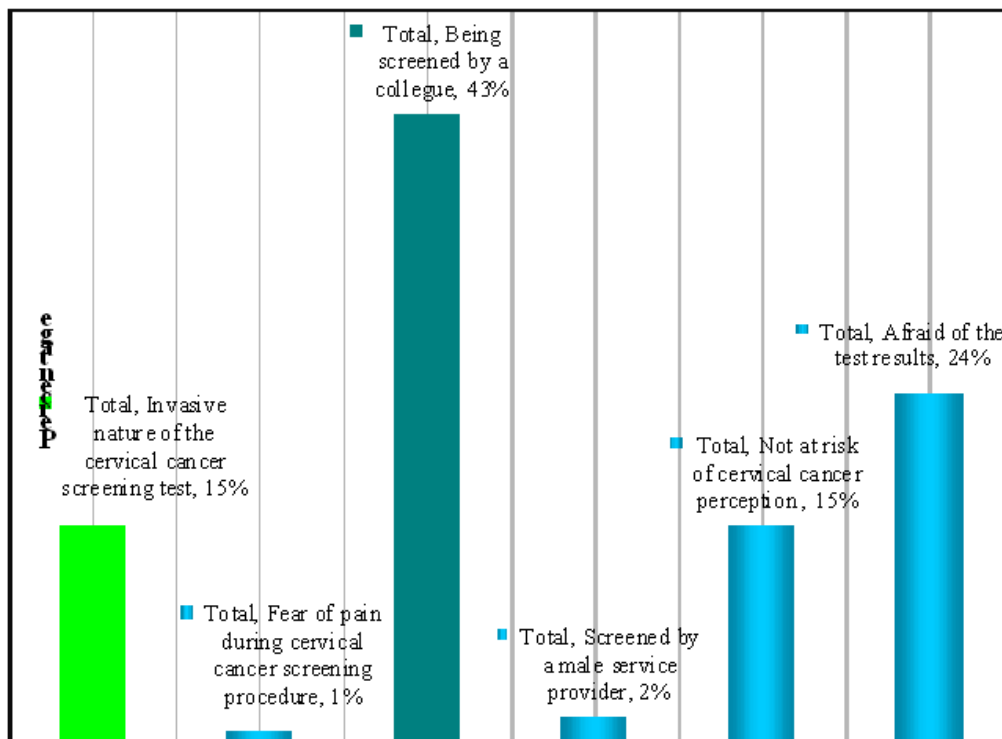


**Religion of respondents (N=163)**

About 31% (50) were Catholics, 67% (109) Protestants and 2% (4) were Muslims as shown in the figure above.

**Strongest reason that discouraged nurses from screening**

Respondents were asked to indicate the strongest reason that would discourage nurses from being screened for cervical cancer; the reasons are given in the figure below.



**Strongest reason that would discourage nurses from being screened for cervical cancer (N=163)**

About 43 % said being screened by a colleague and thus a significant barrier of cervical cancer screening, 15% (25) of the nurses indicated invasive nature of the screening tool, 1% (1) afraid of pain, 2% (4) being screened by a male service provider, 15% (24) not at risk perception, while 24% (39) indicated afraid of the test results.

**Respondents' perceived risk of cervical cancer**

Respondents were asked whether they considered themselves to be at risk of acquiring cervical cancer; more than half (61%) of the respondents considered themselves at risk of cervical cancer, while 39% (63) did not perceive themselves to be at risk of cervical cancer (majority of the respondents who didn't perceive self susceptibility for cervical cancer were had never been screened for cervical cancer as shown in the table below.

**Respondents’ perceived risk of cervical cancer**

Perceived risk for cervical cancer	Frequency	Percentage (%)
Yes	100	61
No	63	39
Total	163	100

**Respondents’ belief whether screening for cervical cancer is beneficial**

Respondents were asked to indicate whether they believed cervical cancer screening is beneficial, all the 163 (100%) respondents indicated that they believed screening for cervical cancer is beneficial as shown in the table below.

**Respondents’ belief whether screening for cervical cancer is beneficial**

Personal belief whether screening for cervical cancer is beneficial	Frequency	Percentage (%)
Yes	163	100
Total	163	100

**Reasons why they believed early cervical cancer screening is beneficial**

Respondents were asked to give reasons why they believed cervical cancer screening is beneficial, 39% (64) indicated that cervical cancer is curable if detected early, 32% (38) low cost of treatment when cervical precancerous lesions are detected early, 14% (22) indicated that screening for cervical cancer gives a woman some peace of mind when test result is negative, however, 24% (39) of the respondents did not specify why they believed screening for cervical cancer is beneficial.

**Correlation test of respondents’ perceived risk for cervical cancer and screening for cervical cancer**

A positive correlation (factor of 0.356) exists between perceived risk for cervical cancer and screening for cervical cancer.

**Correlation test of respondents’ perceived risk for cervical cancer and screening for cervical cancer**

**Discussion of findings**

Correlations			
		Cervical cancer screening status	Perceived risk for cervical cancer
Cervical cancer screening status	Pearson correlation	1	.356**
	Sig. (2-tailed)		.0005
	N	163	163
Perceived risk for cervical cancer	Pearson correlation	.356**	1
	Sig. (2-tailed)	.0005	
	N	163	163
**. Correlation is significant at the 0.01 level (2-tailed).			

**Demographic characteristics of respondents**

Majority (70%) of the respondents, were aged between 30 and 50 years, this indicates that in Thika Level 5 Hospital, nursing care service provision is dominated by nurses who are in their middle age and who are within the age bracket for cervical cancer screening as per the Kenya guidelines for cervical cancer screening. Most (81%) of the respondents are diploma holders and this may be attributed to the nurses upgrading from enrolled to registered level, a program which was initiated in the country few years ago. With regard to job experience, 85% of the respondents had a job experience of between 11 and 30 years.

**Barriers of cervical cancer screening**

This study identified several barriers that can be attributed to low uptake of screening services by nurses. Being screened by a colleague seems to be a significant barrier as evidenced by 80% of the screened respondents who said they accessed cervical cancer screening service from a private clinic as compared to less than 20% of respondents who chose to be screened at Thika Level 5 Hospital. Ignorance is another big impediment when it comes to screening for cervical cancer among this group; more than half (59%) of the non screened respondents

had no specific reason for not screening. A significant number, a quarter (25%) of non screened respondents expressed lack of personal susceptibility for cervical cancer as the main reason for not being screened, 53% of the unscreened respondents said they did not consider themselves at risk compared to 83% of the screened respondents who said they perceived themselves at risk of cervical cancer.

WHO (2013) acknowledges existence of barriers that impede successful implementation of cervical cancer screening programs, these barriers needs to be minimized in order to achieve 100% screening target. In this study a correlation factor of 0.356 was established between perceived risk and cervical cancer screening implying some positive relationship exists between the two variables. This shows that perception of susceptibility is significant predictor for the uptake of the screening services. This finding is in agreement with this study's theoretical frame work by Rosenstock (1966) which postulates that: people are likely to engage in preventive health behavior when they feel susceptible to a potential health risk. Other reasons for not being screened for cervical cancer include; being afraid of cervical cancer test results, and invasive nature or the screening procedure. A study done in Nigeria by Urasa and Darj, (2011) show results similar to those identified by this study, barriers which include: invasive nature of the screening procedure, lack of personal susceptibility, and ignorance as some of the major reasons responsible for low uptake of cervical cancer screening services. Kelly and Stephanie (2009) suggest that, when barriers are removed or minimized, cervical cancer screening rate will improve.

This study does not support one of the reasons given by the Kenyan government (MoPS & MoPS, 2012) that poor cervical cancer screening rate is due to the inadequate screening centres and equipments, all the respondents of this study are employees deployed at Thika Level 5 Hospital and they have unlimited access to the 2 cervical cancer screening centres open daily in that facility (Thika Level 5 hospital), yet 59% of them had never been screened. However (100%) of the non screened respondents believed that cervical cancer screening is beneficial and 93% of them had ever recommended a woman for cervical cancer screening yet themselves have never been screened. In this study, 39% of all the respondents indicated that cervical cancer screening leads to early identification of precancerous lesions and has good treatment outcome, 23% of the respondents associated screening to early identification of precancerous lesions and low cost of treatment regime.

#### **IV. Conclusions**

The study findings indicate existence of numerous barriers of cervical cancer screening; ignorance, being screened for cervical cancer by a colleague, lack of personal susceptibility to cervical cancer and fear of positive cervical cancer test results. Such barriers adversely affected the uptake of cervical cancer screening services by nurses of Thika level 5 hospital.

#### **Recommendations**

There is need for the hospital management to sensitize nurses on the availability of cervical cancer screening centres at the hospital and address the barriers that make nurses of Thika Level 5 Hospital opt to be screened for cervical cancer in other centres ignoring

#### **Recommendation for further study**

The study also recommends similar studies to establish barriers to cervical cancer screening for nurses in other Counties in Kenya.

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**Clearance letter by Mount Kenya Ethics Review Committee**

  
**Mount Kenya University**


**January 16, 2015**

**Ref. No. MKU/IERC/0007**

**CERTIFICATE OF ETHICAL CLEARANCE**

This is to certify that the proposal titled **“Uptake Of Cancer Screening Services By Nurses Of Thika: A Retrospective Study of Thika Level 5 Hospital, Kiambu County in Kenya”** whose Principal Investigator is Mr. Ngutiku Joseph Murithi (MSCN/2013/41318) has been reviewed by Mount Kenya University Ethics Review Committee (ERC), and found to adequately address all ethical issues.

  
**Prof. Mbaruk Suleiman**  
**Chairman, Mount Kenya University ERC**  
Date: 16/01/2015

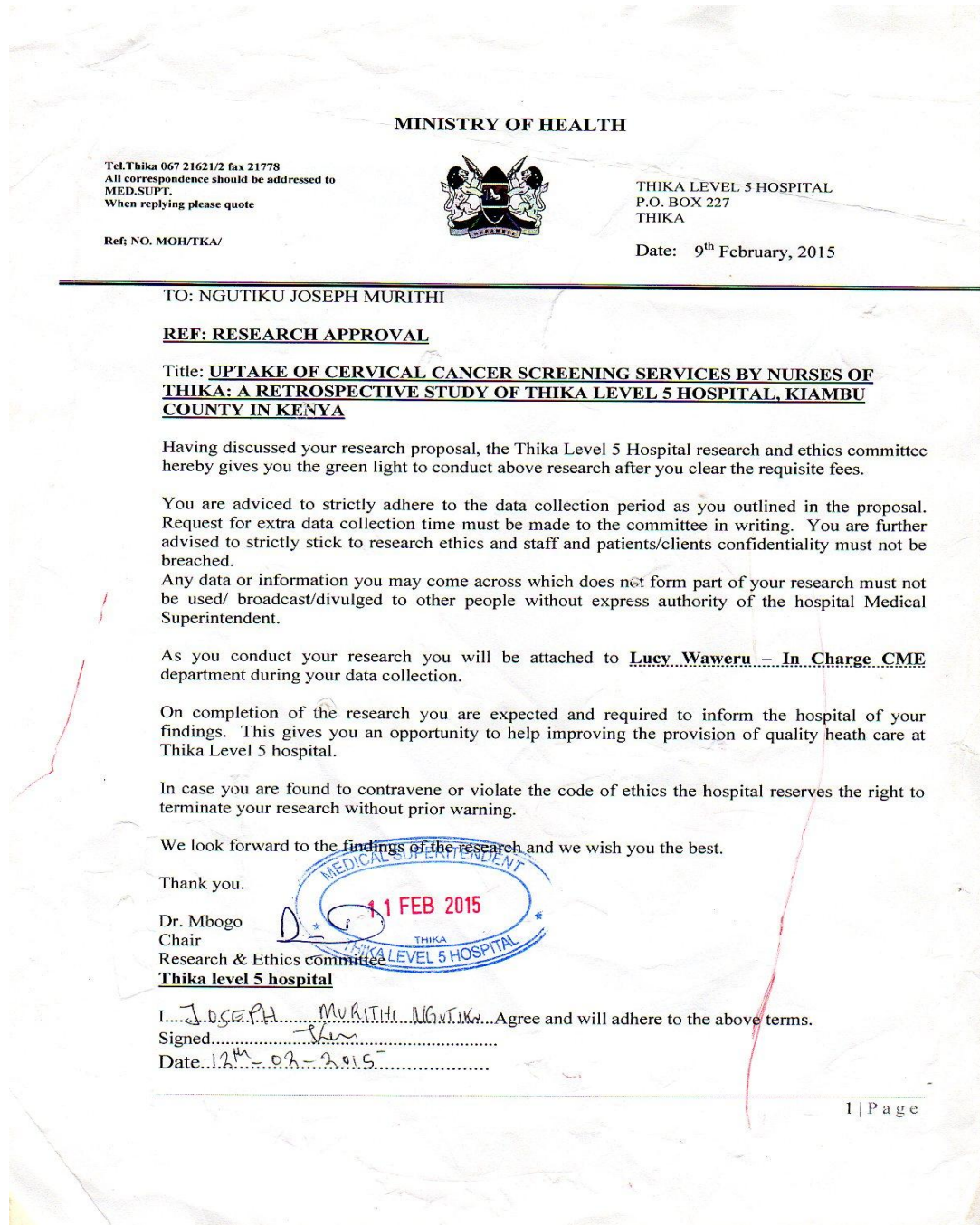
  
**Dr. Francis W. Muregi**  
**Secretary, Mount Kenya University ERC**  
Date: \_\_\_\_\_

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Clearance letter by the Research and Ethics Committee, Thika Level 5 Hospital.



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