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Spousal Communication on Reproductive Tract Infections Among Reproductive Aged Women Attending Reproductive Health Unit in Thika Level 5 Hospital, Kenya

Ndung'u Gladys Wangui^{1*}, Ngatia Justus¹ & Mugo Judy¹

¹ Kenyatta University, P. O. Box 43844 Nairobi Kenya.

*Author for Correspondence ORCID: <https://Orcid.Org/0000-0002-6707-6021>; Email: nkonnie@gmail.com

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Globally, reproductive tract infections (RTIs) are a public health concern among men and women. Promoting efficient spousal communication facilitates joint decision-making and responsibilities on reproductive health issues. In Thika Sub-County, Kenya, there was a paucity of knowledge regarding spousal communication on RTIs. This study aimed to determine factors influencing spousal communication on RTIs among reproductive women attending the Reproductive Health Unit in Thika Level 5 Hospital. This study utilized a cross-sectional study design using quantitative methods. A sample size of 422 married women between 18 and 49 years old was enrolled in this study. Data was collected using a structured questionnaire. Univariate, multivariate, Chi square, and Fisher's exact analyses were used to compute the association between independent and dependent variables. A p value less than 0.05 was used as the level of significance. Approximately 48.1% of the married women communicated with their spouses on RTIs. The univariate analysis noted that residing in an urban area and having secondary and tertiary levels of education were significantly associated with verbal spousal communication on RTIs. Besides, residing in an urban area and having a tertiary level of education were significant independent factors influencing verbal communication on RTIs. There was also a significant relationship between knowledge, sex abstinence, use of condoms, and seeking treatment for RTIs with spousal communication. Personal verbal communication pattern on RTIs was largely utilized by the respondents, followed by intuitive, analytical, and functional communication patterns. The spousal communication patterns on RTIs were significantly associated with the level of education and residence of the respondents. This study concluded that married women had limited spousal communication on RTIs. The study recommends that encouraging candid and efficient communication between couples can help spouses express their anxieties and concerns related to reproductive health. This guarantees cooperation when pursuing treatment and planning preventive actions.

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INTRODUCTION

The term "reproductive tract infections" (RTIs) describes three distinct types of infections that impact reproductive health, such as iatrogenic infections, endogenous infections, and sexually transmitted infections (STIs) [1]. The impact of reproductive tract infections is becoming more widely recognized as a major global health concern [2]. Serious outcomes of RTIs include ectopic pregnancy, miscarriage, persistent pelvic pain, and an elevated risk of human immunodeficiency virus (HIV) transmission [3]. According to the World Health Organization (WHO) [4], more than one STI that is treatable is contracted every day. Non-curable viral STIs such as genital herpes, genital warts, and hepatitis B are not included in this estimate. The WHO also estimates that 139 million new cases of trichomoniasis (156 million), chlamydia (129 million), gonorrhea (82 million), and syphilis (7.1 million) were documented in 2020.

Reproductive tract infections are more prevalent in women in their reproductive years [5] and are endemic in underdeveloped nations, especially in Sub-Saharan Africa [6,7]. The lack of knowledge and stigma associated with RTIs have been shown to be the primary causes of the high prevalence of

RTIs [1]. Women of reproductive age must have the necessary information, attitudes, and behaviors in order to achieve their reproductive health [8]. The diagnosis, prevention, and treatment of RTIs should also be given priority in achieving proper reproductive health [9,10].

Promoting shared decision-making and responsibilities among spouses/partners requires them to communicate better on topics deemed private or exclusive to women or men. Husband and wife can learn about one another's opinions regarding RTIs [11,12]. Married couples can express their reproductive health concerns when they are encouraged to communicate effectively and freely. In fact, this kind of communication guarantees cooperation when it comes to seeking therapy and planning successful preventive measures. Cultural and social standards that produce imbalances between partners are the cause of poor communication in married couples. In general, women's cultural privilege in negotiating sexual relationships is generally weaker than men's [13,14]. There was insufficient evidence about spousal communication regarding RTIs among women of reproductive age in Thika Sub-County, Kenya. The current study assessed factors influencing spousal communication regarding RTIs

among women of reproductive age attending the Reproductive Health Unit in Thika Level 5 Hospital, Kenya.

Research Methodology

Study design

A cross-sectional study design was utilized in this study using quantitative methods.

Setting

This study was carried out in Thika Sub-County, Kenya. Thika Sub-County is cosmopolitan, with diverse populations residing in rural and urban settings. The study was carried out in the Reproductive Health Unit at Thika Level 5 Hospital, a center that deals with RTIs.

Participants

This study enrolled married women aged between 18-49 years and residing in Thika Sub-County, Kenya.

Eligibility criteria

The study included married reproductive women between the ages of 18 and 49 who were attending the Reproductive Health Unit in Thika Level 5 Hospital and agreed to consent. The married women who declined to consent, as well as those who resided outside Thika Sub-County and those aged below 18 years and above 49 years old, were excluded from this study.

Sample size

Sample size (n) was computed using Cochran's formula ($n = Z^2pq/d^2$) [15]. A confidence level of 95% ($Z = 1.96$), an estimated outcome of 50% ($p = 0.5$), and a margin error of 5% ($d = 0.05$) were used. A sample size of 384 married reproductive women was obtained ($n = 1.96^2 * 0.5 * 0.5 / 0.05^2 = 384$). A proportion of 10% of non-responsive respondents was added to give a final sample size of 422.

Sampling technique

A random sampling design was used to select the study participants. The study participants were selected from the Reproductive Health Unit at Thika Level 5 Hospital. The study participants were asked for their informed consent before they were allowed to participate in the study.

Study variables

The independent variables included socio-demographic factors (such as age, level of education, occupation, residence, and religion), verbal communication patterns (intuitive, analytical, personal, and functional), sexual abstinence, condom use, and treatment-seeking practice. The dependent variable was spousal verbal communication related to RTIs.

Data collection

A structured questionnaire was used to collect data from the study participants. The respondents were issued the questionnaire upon consent.

Pre-test

The questionnaire was pretested among reproductive married women attending the Gynecological Clinic at Gatundu Level 5 Hospital to ensure validity and reliability.

Statistical analysis

The Statistical Package for Social Sciences software version 26 was used to analyze raw data. Descriptive statistics were presented as percentages, frequencies and odd ratios. Chi square and Fisher's exact test (when expected outcomes were less than 5% for 80% of cells) were computed to test the relationship between independent and dependent variables. Univariate logistic regression analysis was used to test the association between one independent variable and one dependent variable. The independent variables that were significantly associated with dependent variable using univariate analysis were subjected to multivariate logistic regression analysis to obtain independent

significant factors influencing spousal verbal communication on RTIs, while controlling confounding factors. Binary logistic regression was employed in the two analyses. A $p < 0.05$ was considered significant.

Ethical considerations

The Kenyatta University Ethical Review Committee granted ethical approval for this study (approval number PKU/2002/11150). The Kiambu County government provided permission to collect data (Ref. KIAMBU/HRDU/AUTHO/2019/12/16/Ndung'u). The study was conducted after obtaining informed consent from the participants. This study was also carried out with the utmost standards of privacy, confidentiality, anonymity, and freedom to withdraw from the study.

Results

Characteristics of the respondents

A total of 422 married women with RTIs were enrolled in this study. The respondents who were aged between 18-27, 28-37, and 38-49 years old had proportions of 59.0, 26.1, and 14.9%, respectively. Most of the study participants were monogamous (91.9%), while polygamous participants were 8.1%. The respondents who resided in rural and urban areas had proportions of 55.0 and 45.0%, respectively. The study participants with primary, secondary, and tertiary levels of education were 20.6, 63.7, and 15.6%, respectively. In terms of

occupation, the respondents who were unemployed, self-employed, and employed had proportions of 41.0, 35.3, and 23.7%, respectively. The majority of study participants were Christians (92.9%), while Muslims were 7.1%.

Socio-demographic factors influencing spousal communication on RTIs

Out of the 422 study participants, 48.1% had conversations about reproductive tract infections with their partners, whereas 51.9% never did. According to the univariate analysis, urban residency and secondary and tertiary levels of education were significantly associated with spousal communication on RTIs ($p < 0.05$; Table 1). The urban respondents were 3.208 (95% CI = 2.151 - 4.785) times more likely to communicate with their spouses on matters related to RTIs compared to rural respondents. On the other hand, the study respondents who had secondary and tertiary levels of education were 2.084 (95% CI = 1.162 - 3.728) and 5.804 (95% CI = 2.151 - 4.785) folds more likely to converse with their husbands on matters related to reproductive tract infections compared to those who had a primary level of education (Table 1). However, the respondents' age group, occupation, religion, and type of marriage were not significantly associated with spousal communication on RTIs ($p > 0.05$; Table 1).

Table 1: Univariate analysis of socio-demographic factors influencing spousal communication on RTIs

Variable	n	Odd ratio	odd ratio (95% CI)	p value
Education level				
Primary	66	Ref.		
Secondary	269	2.084	1.162-3.738	0.01
Tertiary	87	5.804	2.872-11.726	<0.001
Age group				
18-27 years	249	Ref.		
28-37 years	110	1.194	0.762-1.871	0.44
38-45 years	63	0.888	0.509-1.548	0.69
Residence				
Urban	190	3.208	2.151-4.785	<0.001
Rural	232	Ref.		
Religion				
Muslim	30	Ref.		
Christian	392	1.658	0.769-3.576	0.20
Marriage				
Monogamous	388	Ref.		
Polygamous	34	0.645	0.314-1.325	0.23
Occupation				
Self-employed	149	1.182	0.763-1.833	0.45
Unemployed	173	Ref.		
Employed	100	0.968	0.590-1.585	0.90

Ref. = Reference; CI = Confidence interval; n = sample size.

Based on the results of multivariate analysis, tertiary education level and urban residency were significant independent factors influencing verbal spousal communication on RTIs ($p < 0.05$; Table 2). The respondents who had a tertiary level of education were 4.482 (95% CI = 2.169 - 9.258) times greater likely to have conversations with their

spouses on RTIs than those who had a primary level of education. In addition, the study participants who were residing in urban areas were 2.816 (95% CI = 1.867 - 4.248) folds more likely to have spousal communication on RTIs relative to those who were residing in rural areas (Table 2).

Table 2: Multivariate analysis of independent factors influencing spousal communication on RTIs

Independent variable	n	odd ratio	odd ratio (95% CI)	p value
Residence				
Rural	232	Ref.		
Urban	190	2.816	1.867-4.248	<0.001
Education level				
Tertiary	87	4.482	2.169-9.258	<0.001
Secondary	269	1.805	0.989-3.294	0.06
Primary	66	Ref.		

Ref. = Reference; CI = Confidence interval, n = sample size.

Symptoms of RTIs

Menstrual disorders, vaginal discharge, lower abdomen discomfort, genital itching, sporting after coitus, dysuria, and genital sores were some of the

symptoms that were reported in this study. Of the reported symptoms, abnormal vaginal discharge was the most prevalent, while genital sores were less prevalent (Table 3).

Table 3: Common symptoms of RTIs

Variable	Frequency	Percentage
Abnormal vaginal discharge	98	23.2
Lower abdominal pain	95	22.5
Genital itching	89	21.1
Menstrual disorder	80	19.0
Painful coitus	37	8.8
Dysuria	33	7.8
Sporting after coitus	32	7.6
Genital sores	19	4.5

Relationship between knowledge, prevention, and treatment of RTIs and spousal communication on RTIs

Knowledge on symptoms of RTIs, use of condoms, seeking treatment, and sex abstinence were significantly associated with spousal communication on RTIs ($p = <0.05$; Table 4). The married women who had knowledge of the symptoms of reproductive tract infections were more likely to communicate with their husbands relative to those who never had knowledge (57.7% versus 35.5%; $p < 0.001$). The study

participants who had used condoms were more likely to talk to their husbands about RTIs than those who had never used condom (58.3% versus 43.7%; $p = 0.01$). Most of the respondents who abstained communicated with partners on RTIs compared to those who did not abstain (60.3% versus 45.3%; $p = 0.02$). The respondents who sought treatment were more likely to communicate with their husbands on RTIs in contrast to those who never sought treatment (55.6% versus 38.9%; $p = 0.001$; Table 4).

Table 4: Relationship between knowledge of symptoms, prevention and treatment of RTIs and spousal communication on RTIs

Variable	n	Frequency (%)		Chi square	df	p value
		communication	No communication			
Knowledge						
Yes	239	138 (57.7%)	101 (42.3%)	20.501	1	<0.001
No	183	65 (35.5%)	118 (64.5%)			
Use of condom						
Yes	127	74 (58.3%)	53 (41.7%)	7.517	1	0.01
No	295	129 (43.7%)	166 (56.3%)			
Sex abstinence						
Yes	78	47 (60.3%)	31 (39.7%)	5.660	1	0.02
No	344	156 (45.3%)	188 (54.7%)			
Seek treatment						
Yes	232	129 (55.6%)	103 (44.4%)	11.608	1	0.001
No	190	74 (38.9%)	116 (61.1%)			

df = degree of freedom, n = sample size

Spousal communication patterns on RTIs

Personal communication pattern was utilized by a larger percentage of respondents in this study, followed by analytical, functional, and intuitive communication patterns. There was a significant relationship

between spousal verbal communication patterns on RTIs and residence and level of education of the respondents ($p < 0.05$). Nevertheless, the spousal verbal communication patterns on RTIs did not reveal a significant association with the age groups, occupation, religion, and nature of marriage ($p > 0.05$; Table 5).

Table 5: Spousal Communication Patterns on RTIs

Variable	N	Frequency (%)				Chi square	df	p value
		Analytical	Intuitive	Personal	Functional			
Age group								
18-27 years	249	30 (12.0%)	56 (22.5%)	143 (57.4%)	20 (8.0%)	2.576	6	0.86
28-37 years	110	17 (15.5%)	25 (22.7%)	56 (50.9%)	12 (10.9%)			
38-45 years	63	9 (14.3%)	12 (19.0%)	35 (55.6%)	7 (11.1%)			
Education level								
Primary	66	5 (7.6%)	7 (10.6%)	48 (72.7%)	6 (9.1%)	27.221	6	<0.001
Secondary	269	35 (13.0%)	54 (20.1%)	156 (58.0%)	24 (8.9%)			
Tertiary	87	16 (18.4%)	32 (36.8%)	30 (34.5%)	9 (10.3%)			
Residence								
Urban	190	29 (15.3%)	61 (32.1%)	80 (42.1%)	20 (10.5%)	28.645	3	<0.001
Rural	232	27 (11.6%)	32 (13.8%)	154 (66.4%)	19 (8.2%)			
Marriage								
Monogamous	388	3 (8.8%)	5 (14.7%)	23 (67.6%)	3 (8.8%)	-	-	0.55
Polygamous	34	53 (13.7%)	88 (22.7%)	211 (54.4%)	36 (9.3%)			
Religion								
Christian	392	51 (13.0%)	90 (23.0%)	214 (54.6%)	37 (9.4%)	-	-	0.34
Muslim	30	5 (16.7%)	3 (10.0%)	20 (66.7%)	2 (6.7%)			
Occupation								
Employed	100	20 (20.0%)	15 (15.0%)	54 (54.0%)	11 (11.0%)	10.359	6	0.11
Self-employed	149	17 (27.4%)	32 (51.0%)	11 (17.7%)	2 (3.2%)			
Unemployed	173	21 (14.1%)	37 (24.8%)	78 (52.3%)	13 (8.7%)			

df = degree of freedom, n = sample size

Discussion

Reproductive tract infections are not only extremely common in women but also have a detrimental impact on their reproductive health due to the nature of the female urogenital tract, sociocultural norms, and economic conditions [16]. Spousal communication is an effective method of preventing and treating sexually transmitted diseases among married couples [17]. This study determined factors influencing spousal communication regarding RTIs among women attending the Reproductive Health Unit at Thika Level 5 Hospital, Kenya. The findings of this study showed that less than half of the respondents (48.1%) had a conversation with their husband on RTIs. The limited spousal communication on RTIs could be attributed to shyness, fear of their husbands' reactions, and compliance with the prevailing norms that view gynecological diseases as normal in women. A study carried out by Santhya and Dasvarma [18] also revealed limited spousal communication on RTIs.

This study also reported that respondents' residency and level of education were associated with spousal communication on RTIs. In addition, the tertiary level of education and urban residency were independent significant factors influencing spousal communication on RTIs. In Sub-Saharan Africa, women who reside in urban areas tend to be more educated and exposed compared to those who reside in rural areas [19]. They are also able to access health services with ease compared to their rural counterparts. The high proportion of spousal communication among urban married women could therefore be attributed to easy access and proximity to health service facilities, social media exposure, proper communication structures, shared responsibilities with their spouses, and high exposure to issues affecting their reproductive health compared to rural women. The low spousal communication among women residing in rural areas could be due to cultural norms that tend to prioritize men compared to women, thus affecting spousal communication negatively [20]. A study by Irani *et al.* [21], also revealed that couples in urban

settings communicate more than those who reside in rural areas.

In this study, it was evident that spousal communication increased with an increase in the level of education. When it came to RTIs, women with tertiary education were found to be more likely to communicate with their spouses than those with primary and secondary levels of education. It is commonly acknowledged that women with advanced level of education exhibit efficient, honest, and authentically agreeable communication [22]. The high proportion of spousal communication among women who had tertiary education could be ascribed to the knowledge and experience they acquired during their studies, especially on reproductive health, thus reinforcing communication with their spouses. The studies by Zakaria and Azim [23], Tadele *et al.* [20] and Grabert *et al.* [24], also have documented that the level of education is factor that influence spousal communication.

The spousal communication did not differ significantly among the age groups of the respondents. However, married young women between the ages of 18 and 27 had lower levels of spousal communication than the other age groups. As young women are relatively new to marriage, their fear and anxiety about their spouses' reactions to RTIs may be the cause of their constrained spousal communication. According to Behera *et al.* [12], poor communication between spouses may also be related to the social isolation that many young women experience after marriage. The respondents' occupation, religion, and marital status were also not significantly associated with spousal communication on RTIs.

The symptoms of RTIs that were reported in this study included menstrual disorders, dysuria, abnormal vaginal discharge, genital itching, lower abdomen discomfort, sporting after coitus, and genital sores. Abnormal vaginal discharge was the most prevalent symptom of reproductive tract infection. A study by Sharma *et al.* [25], also reported similar symptoms such as foul-smelling vaginal discharge, low abdominal pain, itching vulva, burning urination, swelling in the groin,

and genital ulcer. A study by Barua *et al.* [26] also reported symptoms such as dysmenorrhea, burning micturition, smelly vaginal discharge, and menorrhagia.

Spousal communication was significantly associated with knowledge of the symptoms of RTI. It was noted from this study that women who had knowledge about the symptoms of RTIs notified their spouses. Comprehending the symptoms of RTIs and informing the partner can enhance communication and collaboration, especially when it comes to seeking treatment [25]. Generally, sexual promiscuity is linked to RTI symptoms [27]. This could be the reason some respondents never communicate with their spouses, including those who were aware of the symptoms of RTIs.

In this study, the rate of condom use and sex abstinence practices among women experiencing symptoms of RTIs was astonishingly low. Spousal communication, on the other hand, led to condom use and sex abstinence. Interestingly, married couples in African settings rarely use condoms [28]. This may be explained by the fact that condom use is far less acceptable when one enters a marriage because they are perceived as intruders. Other major barriers to the use of condoms include the association of condom use with promiscuity, infidelity, religious or cultural beliefs, and perceived inconvenience or discomfort [29]. Seeking treatment also had a significant association with spousal communication. Most of the respondents who had conversations with their spouse's sought treatment for RTIs.

The differences in communication styles are the real cause of disagreements and miscommunications between two people. The interpersonal behaviors that characterize the communication style determine how they convey and receive information. There are four basic types of communication: personal, functional, intuitive, and analytical. The emotional states and linearity of information exchange and reception determine communication styles [30,31].

The percentage of respondents who employed personal communication patterns was higher in this study. One plausible explanation for this could be due to the close personal bond exhibited by couples. The couples therefore regard conversation on RTIs as delicate and private [31]. Additionally, in the African context, elements of the sociocultural beliefs that impact marital communication, such as male dominance, may obstruct candid and thorough discussions on RTIs between partners. All the same, the majority of women expressed satisfaction with their spouses' compassion despite their reproductive illness.

The findings of this study also noted a substantial correlation between the respondents' residence and education level and spousal communication patterns. In general, the respondents with a higher level of education revealed constructive spousal communication and were more likely to look for treatment and share about the same issues in the future.

Conclusion

This study concluded that married women had limited spousal communication on RTIs. The urban residency and tertiary level of education were independent significant factors influencing spousal communication on RTIs. Knowledge on symptoms of RTIs, use of condoms, seeking treatment, and sex abstinence were significantly associated with spousal communication on RTIs. The spousal verbal communication patterns on RTIs were significantly associated with the level of education and the residence of the married women.

Recommendations

This study recommends that initiatives promoting spousal verbal communication related to reproductive health should be given top priority. This will allow married couples to communicate effectively and freely, sharing information regarding reproductive health. This will ensure cooperation in seeking treatment and planning efficient preventive actions. Community leaders, local women and men, and healthcare professionals should collaborate and implement

interactive educational programs that raise knowledge of common symptoms and promote positive treatment-seeking behaviors among married women. Health care facilities should support programs like marital counseling because they promote an analytical pattern of communication, which creates chances for dialogue and active engagement.

Conflict of interest

The authors declare they have no competing interest.

Authors' Contribution

Ndung'u Gladys Wangui and Mugo Judy conceived the study idea and designed the study. Ndung'u Gladys Wangui collected data and interpreted the results under the supervision of Mugo Judy and Ngatia Justus. All authors participated in the preparation of the manuscripts and approved the final manuscript.

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