EFFECTS OF TRADITIONAL VAGINAL PRACTICES ON REPRODUCTIVE HEALTH AMONG PREGNANT WOMEN AT ISIOLO DISTRICT HOSPITAL

SUBMITTED BY

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OF THE

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DECLARATION

I declare that this research work for the dissertation in part fulfillment of the Master of Medicine degree in Obstetrics and Gynaecology of the University of Nairobi is my original work, and to the best of my knowledge, has not been presented to any university forum or for degree in this or any other university.

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This is to certify that this dissertation is the original work of Dr. Adan Dima, Mmed student registration number H58/8139/05 in obstetrics and gynecology department, University of Nairobi (2005-2010). The research was carried out in the department of Obstetrics and Gynaecology, School of Medicine, College of Health Sciences. It has not been presented in any other university for award of a degree.

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DEDICATION

In the hope of this study contributing towards efforts to better women's health, I dedicate it to the three most important women in my life.

To my Mother HALIMA,

To my lovely Wife ZENJIA,

And to my precious Daughter HALIMA "CHUKU".

LIST OF ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Clinic
CSW	Commercial Sexual Workers
FGM	Female Genital Mutilation
HIV	Human Immunodeficiency Virus
ICRW	International Centre For Research on Women
SSA	Sub-Saharan Africa
STI/D	Sexually transmitted infection/|Disease
TVP	Traditional Vaginal Practices
U.S.A	United States of America
WHO	World Health Organization

TABLE OF CONTENTS

STUDY TITLE ……..…….. I

DECLARATION …… II

CERTIFICATION BY SUPERVISORS ……...III

CERTIFICATE OF AUTHENTICITY ……IV

ACKNOWLEDGEMENT ……V

DEDICATION ……..VI

LIST OF ACRONYMS & ABBREVIATIONS ……VII

TABLE OF CONTENTS ……VIII-IX

ABSTRACT ……..……I-2

INTRODUCTION …….....3-7

LITERATURE REVIEW ……8-15

RATIONALE …… ..16

RESEARCH QUESTION ……16

OBJECTIVES (Broad objective and specific) **…….16-17**

METHODOLOGY …….....17-21

Study area …….....17
Study population ……18
Study design …….....18
Sample size ……19
Inclusion and exclusion criteria ……..19
Variables ……19
Data collection tool ……19-20
Data collection ……20-21
Data analysis …….....21

ETHICAL ISSUES …….....21

BENEFIT TO STUDY SUBJECTS ……..22

STUDY LIMITATIONS …….....22

STUDY RESULTS …….....23-36

DISCUSSION ……37-39

CONCLUSIONS ……39

RECOMMENDATIONS ……..40

REFERENCES …… ...41- 44

APPENDIX I –CONSENT EXPLANATION DOCUMENT**…… 45**
APPENDIX II – CONSENT FORM **…….....46**
APPENDIX III – DATA COLLECTION FORM **……47-53**
APPENDIX IV- KNH/UON ETHICS APPROVAL ……....54

ABSTRACT

Background

Although traditional vaginal practices have always been known to occur among the Cushitic communities of Kenya, the actual prevalence and their impact has not been determined. As these practices involve chemical and structural changes of vaginal lining, there is need to establish their adverse effects so that appropriate interventions are formulated.

Objective

To study traditional vaginal practices in Isiolo focusing on the prevalence, reasons for the practice, perceived benefits and adverse effects of the practice.

Outcomes measured: prevalence, reasons for practice, perceived benefits and adverse effects experienced.

Methods

A cross-sectional descriptive study was carried out among the antenatal mothers at Isiolo district hospital. Personal interviews were conducted with 356 antenatal mothers using a structured questionnaire.

Results

The prevalence of life time practice of Traditional Vaginal Practices (TVPs) among the study group was 42.7%. The practice was significantly more among the Indigenous women than the Non-indigenous (53.2 vs. 25.4%; $p<0.001$). The prevalent types of practices found were Smoking of vagina, Irrigation with liquids, burning with hot objects, Insertion of substances, stitching to reduce vaginal size and drying with cloths. Agents used for vaginal Insertion and Irrigation were herbal products, cotton wool, salty water, soft drinks Coca cola and Sprite, domestic bleach "Jik" and water with soap. The invasive practices consisting of vaginal burning with hot objects and stitching were significantly exclusive to the indeginous communities (21.2 Vs 0.0%; $p=0.008$). The non- invasive modes which include vaginal smoking, irrigation, substance insertion and drying with clothes were significantly more predominant

among the Non-indeginous (100 Vs 78.8%; P<0.001). Traditional vaginal practices were significantly more prevalent among those who were ever married than singles (43.9 vs. 34.1%; p=0.007), Muslims than Christians (58.9 vs. 28.9 %;.< 0.001), reduces with rising education level (<0.001) and increases with rising gravidity (p<0.001). Religion was found to be independently associated. The most frequently sited reasons for the practices were treatment of vaginal discharge and other infections (66.4%), drying the vagina to achieve dry sex (58.6%), improve vaginal smell (58.6%), to cleanse the vaginas (47.4%), to tighten the vagina for sex (46.7%) and to prevent infections (29.6%). The benefits reportedly accrued from the practices were increased sexual pleasure for self and spouse (77.6%-84.9% respectively), clean good smelling vagina (77.6%), comfortably dry vagina (74.3%), cure of vaginal infections (52.0%) and prevention of infections (29.6%). The most frequently reported immediate adverse effects associated with the practices were secondary infections (21.1%), pain (19.7%), vaginal wounds (12.5%), vaginal swelling (11.8%) and urinary problems (8.6%). Sexual difficulties experienced with the practices were mostly superficial dyspereunia (24.3%), persistent postcoital pain (18.4%), deep dyspereunia (14.5%), excessive vaginal dryness (14.5%) and vaginal injuries (14.5%).

Conclusions

Traditional vaginal practices were prevalent among the antenatal mothers studied. The practice was more common among the indigenous communities. Some types of vaginal practices were invasive. Only religion was found to be independently associated with vaginal practice. Education level was inversely related to prevalence of TVPs. Immediate adverse effects and sexual difficulties were associated with TVPs

Recommendations

Government to undertake measures that elevate education levels and provide health education to the community. Better understanding of reasons and impact of interventions should be enhanced through prospective studies.

INTRODUCTION

Human sexuality is a complex subject and little studied with scarce literature available. In conservative African societies the issue of sexuality is not discussed openly. Yet immense dynamics of sexuality are in play, away from the open, defining and shaping all aspects of societies, of interest to this study, epidemiologically. Sexuality and it's understanding at community level, is a subject that is lately more recognized as an integral part of reproductive health.

Sexual relationship is one of important social bonds in any society. However, it is also an important determinant of morbidity and mortality in the society. Heterosexual sex explains 90% HIV/AIDS infection in African (Buve A and others 1995).[1] Social vices like prostitution, divorce, infidelity and child neglect which somehow have direct link to societies` sexuality are all determinants of morbidity and mortality profiles in the society.

The female external genitalia /sexual organ is lined by protective stratified squamous epithelium. This is in contrast to internal reproductive organ and adjacent rectum which are lined by less protective columnar epithelium. Secretions from various glands are secreted in to this external genital tract. These secretions are glycogen rich which is broken down by lactobacilli, a resident flora in the vagina, to lactic acid creating an acidic environment offering further protection. These secretions also act as lubricant protecting the mucosa against abrasion during sexual intercourse. Hypothetically, any factor that leads to disruption of these protective mechanisms will put women at greater risk of disease acquisition, importantly HIV/AIDS /STI, during sexual intercourse. Physiologically, women are already four (4) times more at risk of getting sexually transmitted diseases and HIV from vaginal sexual contact than men. This is due to high surface area of mucous membrane exposed to larger infectious fluid with higher

concentration of infecting agents which remain longer in vagina after intercourse. This biological vulnerability is further exacerbated by socio-cultural vulnerability (UNAIDS1999, WHO 2000)[2, 3]

In many societies of developing world especially Sub- Saharan Africa, issues of sexuality is steeply tilted in favor of the man with men dominating all aspects of sexual relation. This and other male dominance in other aspects of society against female gender has been put forward in most of the literature as an explanation to the often observed greater morbidity and mortality especially the greater HIV/AIDS burden among the female gender. Of the world's 1.3 billion living in abject poverty, 70 percent are women majority of who live in the SSA. Marginalized and disadvantaged in terms of economic power, most women in these regions rely on men with whom they are sexually related either in marriage or otherwise for subsistence. Men being such source of livelihood, women in these poor regions give their all to attract and put in all it takes to retain men in sexual relations in marriage or otherwise, at times in total subordination of their own comfort and safety. Male sexual satisfaction in a sexual relationship is regarded top priority with woman's satisfaction, comfort and safety, if not totally ignored, ranked lower. In International Center for Research on Women's (ICRW) numerous studies on HIV, women from Latin America, Asia, and Africa, report that they dare not insist on safer sex or object to painful sex for fear of being abandoned by their men and spiraling down into destitution. In a 19-country study, ICRW found that the lower women's status, the higher HIV prevalence.

Therefore male sexual preference is not a light subject among these women and effort to conform to such male sexual preferences is quite a preoccupation for them.

Across many societies especially in SSA, maintenance of virginity till marriage by females is a societal norm. Virgins are preferred by men and in many communities higher and better dowry is set and paid

for virgins in comparison to non-virgins. Women who are nulliparous are preferred by men and have more chances of getting into sexual relationship, marital or otherwise, than their parous counterparts.

In most conservative African communities vaginal secretion, especially if on the excess, is detested by men. The smell of these secretions is assumed repulsive to men and noise of wet sex resulting from such secretions embarrassing especially for the woman. Loose slippery vagina is taken as sign of infidelity. Dry, tight and abrasive sex is thought desirable, extra sensational and more satisfying for men during sexual intercourse. Naturally, in a woman, normal physiology plays against such ideals. Vaginal secretion, as part of normal physiology, is bound to increase with sexual stimulation making the vagina even more wet during intercourse. The normal process of child birth stretches the perineal floor and vagina leaving the canal lax and loose, worse off with multiple deliveries common in the developing world. Genital displacements, cystoceles and rectoceles are common with repeated vaginal deliveries and lead to pelvic congestation with resultant increased vaginal secretions pushing the scenario further away from the desired ideals.

To achieve these ideals of male sexual preferences and to overcome the above normal physiological processes acting as hitch, various vaginal practices are done by women across many communities in SSA to entice their male partners. In many studies done on FGM in communities, one of the reasons cited for the practice, especially the severe forms (infundibulation), is creation and maintenance of virginity. Infundibulated women are left with small tight, almost obliterated vaginal orifices for tight often abrasive sexual intercourse. The number of women requesting caesarian delivery as preferred delivery mode is on the rise especially in the more affluent societies. That the desire to preserve their normal perineal and vaginal tone for sexual purposes as one of the reasons among others, is a plausible assumption to make.

Various vaginal undertakings to reduce vaginal secretions before and during sex have been described among different communities ranging from wiping of vagina with pieces clothes and other fluffy tissues to vaginal irrigation with often irritant liquids and insertion of various traditional substances alleged to have drying effects. Among the Cushitic communities of north and north-eastern Kenya vaginal smoking using special traditional preparations claimed to have drying effect on the vagina and imparting favorable vaginal smell is a common practice. Burning or scalding of vaginal mucosa using red hot metals like a long nail to treat vaginal discharge and by extension to dry and tighten the vagina is also done by some women among these communities. Vaginal/cervical stenosis resulting from this particular practice is not an unusual encounter for health workers who have worked in these regions of Kenya. Traditional vaginoplasties, done especially after child birth, to reduce vaginal size and enhance its tone making it tight, involving procedures similar to stitching done during FGM infundibulation, is also practiced by women among these communities. With number of population seeking skilled medical care increasing with modernization, more and more women are visiting gynecologists for skilled vaginoplasties to tone up their vagina in the hope of making themselves more attractive to their partners for better sexual lives.

As these vaginal practices done by women meant to enhance male sexual pleasure may break vaginal protective barriers and environment, it is a valid preposition to make that the practices may be harmful and may, at least theoretically, increase the transmission of sexually transmitted diseases among women with these practices during heterosexual sex. As the practices may cause inflammation and other damages leading to scarifications of the reproductive tract, stenoses (vaginal and/or cervical), infertility, labour dystocia and vaginal fistulae may follow these practices. Furthermore, as some of the practices are done to achieve dry sex, they may be seen incompatible with use of condoms as lubricated condoms may be perceived to “unblock the magic" of dry sex. Due to dryness and or tightness, incidences of

condoms breakages may be higher with some of these practices thereby increasing risk of sexually transmitted infections and unplanned pregnancies with consequent unsafe abortions during sexual contacts.

To study these vaginal practices related to sex in terms of their prevalence, their various forms/modes and agents used, the various reasons for the practices and the possible effects on reproductive health is the main intention of this study.

LITERATURE REVIEW

Various studies from different parts of the world have documented various vaginal practices by women for sexual purposes. These include vaginal douching before sex, insertion of substances in to the vagina, vaginal smoking hoped to dry and tighten the vagina and drinking of special concoctions aimed to have vaginal effects. Other more invasive practices of traditional vaginal surgeries to reduce vaginal size and scalding (cauterization) of the canal using hot metals to reduce vaginal secretions and size occur among Cushitic communities though their extent have not been established.

VAGINAL DOUCHING

Douching is intravaginal cleaning or irrigation by use of various substances including water with or without soap, home made preparation or solutions or commercially available douches. Vaginal douching is practiced variably by different community. Many woman practice douching for various reasons including hygiene, treatment of vaginal discharge, before sex, etc. In some communities like the Muslim Cushitic communities of northeastern Kenya, women douche frequently with water after all calls of nature and before and after sexual contacts. Reports from other regions indicate douching with irritant substances to treat vaginal discharges and before sexual act to enhance sexual pleasure. Although epidemiological studies have demonstrated that ulcerative and non-ulcerative sexually transmitted diseases (STD) are risk factors for HIV heterosexual transmission[4, 5, 6, 7], the role of other factors like douching that may have an impact on the genital tract remains incomprehensively researched.

There is some evidence that frequent vaginal douching, through modification of vaginal flora, may increase a woman's susceptibility to sexually transmitted agents. Previous studies have suggested that vaginal douching may increase the risk of cervical infections[8,9] and predispose women to pelvic inflammatory disease.[10,11,12] Cervical infections, in turn, have been identified as a risk factor for HIV

infection.[6,7] These findings suggest that vaginal douching may play a role in the heterosexual transmission of HIV. Dallabetta and colleagues 1995 [13] reported a small positive association between HIV sero-positivity and use of intravaginal agents for treatment of vaginal discharge. Vaginal douching with non-commercial preparations was associated with an increased prevalence of HIV, whereas douching with commercial antiseptic preparations was associated with a lower prevalence of HIV in a cross sectional study by Gresenguet and colleagues in Bangui, Central African Republic, between 1994 - 1995.[14] Douching was associated with a two fold increase in self-reported pelvic inflammatory disease by Foxman and colleagues 1998[15] in their study on a sample of women in America.

La Ruche G and others 1999[16] found widespread practice of douching in African pregnant women. They found Genital warts were less frequent in women who usually douched. Ureoplasma urealyticum infection was associated with douching and with the use of intravaginal agents. Diagnosis of genital infections was independent of douching with water or soap, but Chlamydia infection was associated with douching with antiseptics. HIV infection was two times more frequent in women using antiseptics in this study.

Douching may play a role in interfering with the natural protective barriers of the vagina through vaginal floral redistribution, change of optimum pH, and irritation and inflammation of vaginal mucosa as some douches used may be irritants.

VAGINAL PRACTICES DONE TO ACHIEVE DRY AND TIGHT SEX

Dry sex is a sexual practice of minimizing vaginal secretion by using various drying agent and methods before and during sexual intercourse thus making the woman‘s vagina dry and tight. The practice is done in the hope of generating extra sensation for the man during intercourse. The practice is wide

spread in Sub Saharan Africa countries. It has been described in Benin, Cote d'Ivoire, Nigeria, Senegal, Cameroon, Zaire, Malawi, Zambia, Zimbabwe, Mozambique, Kenya, Tanzania, Somalia and South Africa.(Brown JE and colleague 2000[17], Schwandt M and others 2006[18] ,Olugbenga J and colleague 2002[19]). Similar practices and motivations can also be found in America, specifically in Haiti and the Dominican Republic. In South-East Asia vaginal practices to tighten the vagina are found in Cambodia, Indonesia, Malaysia, Thailand and Vietnam. The practice is also found in parts of Middle East. (Halperin, D. 1999).[20] Virginia Braun's (2001, 2004, 2005)[21, 22, 23] extensive research on the Western socio-cultural construct of the vagina argues that size matters. Women in the West desire vaginas that are tight (but not too tight) and find a "loose" vagina undesirable. Braun shows how the concept of the vagina as a receptive part of the female body has changed over the last century. She documented the rise of female genital cosmetic surgery as a means to promote female sexual pleasure and self confidence.

The practice of dry sex has been shown to be as prevalent as 86% among a cohort of women in Zambia (Nyirenda MJ. 1992[24]) and 93% in a female cohort in Zimbabwe (Rungara A, Pitts M, McMaster J. 1992[25]). In Kwazulu Natal, 80% of sex workers were found to practice dry sex (Baleta 1998[26] ,Beksinska and associates 1999[27]).The practice of dry sex by insertion of substances in to vagina was reported by 36.1% of the women in a study in Meru Kenya. (Schwand M and colleagues 2006)[18]

Various substances and methods have been described to be in use to achieve vaginal dryness and tightness, varying from region to region. These range from wiping of vagina before and during sex to more elaborate methods of insertion of traditional preparation and other irritants. Brown and associates[17] in Zaire observed that the most common methods employed in the practice include the use of various leaves, powders, stones, pharmaceutical products (talcum powder, Vicks, and hydrolin and gyno-sterazin), wiping with cloth and hot water.

Olugbenga and collegues[19] described washing with alum, mopping with wet piece of cloth to dry and tighten the vagina in Nigeria. In Indonesia vaginal practices by women to make their vagina tight, drier, and firm have been described. (Josoef and collegues) [39] Treatments include vaginal cleansing, drinking special concoctions, inserting of preparation into the vagina, vaginal steaming or smoking and vaginal operations.

Smoking of vagina using traditionally prepared agents made of herbs and seeds is another form TVPs practiced by women.[44, 45, 46] In the USA it is referred to as Venus Smoke and in Indonesia is part of body/beauty spa offered commercially (Bali Spa Guide 2009).[44] During vaginal smoking the woman sits naked wrapped in a broad sheet in a chair with a hole while a bowl of the preparation is burned under the hole. The smoke that wafts up in to her vagina is meant to stimulate, scent and dry the organ. The smoking is undertaken to beautify and rejuvenate their bodies prior to weddings and other special occasions.[44, 45, 46.] Such smoking practice is done by the Cushitic communities in Kenya and the preparations used known as "QAY" in the Oromo speaking and "UUNSI" in Somali speaking are sold commercially in shop. The scent of these traditional preparations is a common scent worn by women of these communities.

Traditional treatments for illnesses of burning by applying hot metal nails to body part have been described among Somali refugees living in the USA.[47] Vaginal burning/cauterization with hot long nails have been known to have been used by the Somali community to treat vaginal discharges (and even normal leucorrhoea) often perceived as "dirt from accumulated semen." Such burning procedure once in a while especially after delivery is believed to cleanse woman's vagina of such "dirt", rejuvenates and tones the vagina in readiness for sexual activity and pregnancy. That vaginal wetness is undesirable for sex, dirt and sign of reproductive disease, especially STIs, and regarded by men as sign of promiscuity

has been described in communities practicing dry sex.[28-38] Treatment of vaginal discharge has also been sited in many literatures as one of the reasons for TVPs. [17, 18, 19, 20, 24, 25, 27, 44, 45]

Physical reduction of vaginal size by surgical means to better sex is another form of vaginal practice. In cultures prizing unmarried women's virginity, hymenal reconstruction (virginoplasty) comes in handy to spare those with premarital rupture shame and humiliation on their wedding day. This procedure is increasingly being done by gynecologists.[48] vaginoplasty to reduce the size and tone the vagina is increasingly being requested by clients in specialized centers. Traditional vaginoplasties involving stitching introitus /vagina to reduce the introitus to just short of obliteration by use of thorns, freshening of edges and keeping legs together to heal closely to achieve tight vagina especially after delivery is a practice known to occur among the Cushitic communities. It happens that in these communities maintenance of virginity till marriage is a cultural norm.

Various reasons for these practices have been enlisted in numerous studies: [17, 18, 19, 20, 24, 25, 27, 44, 45]

- Dry sex is practiced in the belief that it will remove vaginal secretions, tighten and "warm" the vagina.
- Vaginal secretions and wetness are often culturally associated with unfaithfulness, lack of Cleanliness and infection
- Dry sex is practiced to provide sexual satisfaction for the husband/partner in order to ensure his fidelity.
- It is often believed that dry sex promotes cleanliness, fertility, and good health.
- By using dry sex agents, women believe they are also strengthening their bodies, preventing reproductive Disease and toning pelvic muscles.

- To enhance male sexual arousal.
- Some agents and methods may be used to specifically prevent and treat sexually transmitted diseases and vaginal infections, itching and discharge.

However there is widespread concern and research evidence that drying practices increase transmission of HIV and other STIs by drying out and irritating vaginal mucosa, disturbing normal vaginal flora and interfering with effective use of condom. Whatever the method and drying agent used to achieve dry and tight sex, the process cause irritation and inflammation with swelling and scarring of the vaginal mucosa giving sensation of tightness. The resulting friction is likely to cause more abrasion with more mucosal break during intercourse resulting into increased transfer of HIV and other STIs.

In Africa, practices to tighten and dry the vagina using a range of natural and artificial ingredients have been found to harm health (Beksinska et al. 1999[27]; Brown et al. 1992[28], 1993[29]; Civic and Wilson 1996[30]; Dalabetta et al. 1995[13]; Irwin et al. 1991, 1993 [35, 36]; La Ruche et al. 1999[16]; Mungui et al. 1997[31]; Orubuloye et al. 1995[32]; Sandala et al. 1995[33]; Van de Wijgert et al. 2000[34]).

In Cote d'Ivoire such materials were found to 'dry' the vagina and increase the chances of genital infections but nonetheless the materials do not directly endanger the flora of the vagina (La Ruche et al. 1999).[16] In Zaire the use of leaves, rock powder, talcum powder, Vicks, and alum along with the insertion of fabrics into the vagina was found to cause infections due to friction occurring in the vagina causing wounding of the vaginal tissue. Vaginal examinations on a number of women using intravaginal agents to achieve vaginal dryness and tightness were found to have inflammatory lesions and excessive dryness that could foster epithelial trauma during coitus both for the woman and for her partner (Brown JE and others 1992, 1993).[28, 29] Similarly, Irwin et al. 1993,[35] described intravaginal use of talcum

powder, ginger root extracts, leaves, cola nuts and gun powder causing irritation and concealing symptoms of STDs, which can lead to pelvic complications and the spreading of HIV. Kun, K1998[36] describes an evaluation of sex workers in Zaire, who were examined before and after inserting drying agents in which he found that of the seven participants, only one was left with intact vagina mucosa. All others had vaginal inflammation resembling a chemical burn or allergic reaction. Women who introduced any product into the vagina were found significantly more likely to be infected with HIV than women who did not (Mann JM et al, 1988).[37]

Dalabetta et al. (1995)[13] found that in Malawi HIV positive women use such materials plus lemons, sugar, and caustic pencils as a means to 'prevent and cure' HIV. In Zambia, Sandala et al. (1995)[33] found that the use of such materials can cause vaginal swelling and peeling, especially if leaves and fabrics are inserted into the vagina. Van de Wijgert et al. (2000)[34] in Zambia showed that the use of such materials can cause damage to the flora of the vagina, while Civic and Wilson (1996)[30] reported similar practices cause scratching and swelling of the vagina. Researchers investigating the use of drying agents among 75 HIV-positive and 76 HIV-negative women in Zimbabwe found no significant differences between the two groups' patterns of use or rationales for doing so. The study did find, however, that 14 women in the HIV-positive group had used a particular herbal drying agent compared with seven in the HIV-negative group. The authors concluded that this and related substances merit further investigation as a potential cofactor in HIV transmission (Runganga, A.O. and Kasule, J. 1995)[38]

Similar evidences on vaginal practices have been reported from the other parts of the world. Foxman and colleagues (1998)[15] in USA hypothesized that their observed higher prevalence of practice of 'dry sex' amongst African-American women than that in Caucasian women could explain the preponderance

of STDs amongst them. Joesoef et al. 1996[39] in Surabaya, Indonesia found that pregnant women who use products and preparations like betel leaf solution before intercourse on their vagina risk higher chances of STD infection. The interpretation was that use of such products can facilitate the growth of pathogenic bacteria thus killing the normal flora of the vagina.

Vaginal drying agents have been documented as producing lesions that disrupt vaginal membrane integrity. Vaginal drying and tightening practices may also increase the likelihood of trauma and abrasions to the vagina and penis during intercourse because of the absence of lubrication. Drying agents may cause swelling of the membranes, bruising, stinging and may facilitate small cuts during sexual intercourse that increase the risk of sexually transmitted infections. In addition, intravaginal substances may alter the vaginal pH, which normally serves as a protective factor against infection acquisition.[41.] Drying agents may also be used to treat or mask vaginal discharge, which may be a symptom of sexually transmitted infections leading to pelvic complications.

Other indirect effects of practice of dry and tight sex have also been reported. In Zimbabwe, Civic D and coworker 1996, [30] observed that women who practiced dry sex were reluctant to use condoms for fear of blocking the "magic" of drying agents by lubricated condoms and recounted their frequent breakages when used during dry sex due to friction. This could further increase risk of sexually acquired infections and unplanned pregnancies. Van de Wijgert, J. et al 1999[40] found that the men's desire for dry sex as well women's need to comply might present considerable obstacles to women's microbicide use which could have presented an excellent possibility for the many women who can't negotiate condom use and are at risk for HIV and STIs,

RATIONALE

Although the perception that vaginal practices related to sex are prevalent among Cushitic communities, the extent of the practice has not been quantified. Even more important, the intended impact is not well established as these communities are highly seclusive. Further, these practices involve chemical and structural changes that may result in adverse effects and affect various reproductive functions, or even adversely affect pregnancy outcomes. Unstudied, these outcomes may be perpetuated in this and other communities that have similar practices. There is therefore a need to conduct research and create research interest in this area. To break the barriers that hinder access to this information, women attending antenatal clinic form a pivotal entry point as they are given health education creating an interactive opportunity. Hence, the necessity to conduct this ground-breaking study in this important area.

RESEARCH QUESTION

What is the prevalence of Traditional Vaginal practices among pregnant women at Isiolo District Hospital?

OBJECTIVES

Broad objective

To determine the effects of vaginal practices related to sex on reproductive health among pregnant women.

Specific objectives

1. To determine prevalence of various vaginal practices related to sex.
2. To describe the reasons for practicing vaginal practices related to sex.
3. To describe perceived benefits accrued from the practice.
4. To determine adverse effect of the practice.

METHODOLOGY

STUDY AREA

The study was conducted at Isiolo District hospital antenatal clinic. Isiolo district with its district headquarter Isiolo town is in eastern province of Kenya, some 350 kms north of Nairobi. The town lies on the great north road and is an upcoming urban centre. The district is resided mainly by Cushitic groups mainly Boran, Somali, Gabra, and Sakuye. Bantus mainly Ameru and Nilotes such as Turkana are also present. The antenatal clinic at the hospital, the site where the study was conducted, was part of the Maternal Child Health (MCH) unit of the Out-patient Department (OPD). A room in this unit was used for antenatal services and usually two nurses attended to clients helped by support staff. In order to conduct personal interviews on respondents for this study, an adjacent spare room was identified and utilizes. Respondents were recruited while waiting in the queue to be served or after they were through with the antenatal service.

STUDY POPULATION

Women attending antenatal clinic at the district hospital made up the study population of this investigation. All the pregnant mothers who came to attend the antenatal clinic during the study period of 1st to 20th October 2009 and gave consent to be included in the study were interviewed.

STUDY DESIGN

This was a cross-sectional descriptive study on pregnant women attending antenatal clinic at Isiolo District Hospital. Structured questionnaires were used to conduct personal interviews on the pregnant mothers recruited during the study period at the antenatal clinic on their practice of TVPs, reasons for their practice, perceived benefits and adverse effects experienced. The choosing of ANC attendants is based on the fact that this is a ground breaking study in a very conservative and secretive society. By choosing ANC attendants, it makes it easier to penetrate the study population circumventing hindrances to gathering of needed information posed by the conservative nature of the community in this region.

SAMPLE SIZE

All women attending antenatal clinic at the hospital and giving consent to be included in the study were recruited.

Sample size was calculated as the formula below:-

$N = Z^2 P (1- P) 1/c^2$

N- Sample size

Z- Standard normal deviation that corresponds to the desired level of error (significance level of 0.05)

P- Prevalence of problem

C- Accuracy of estimating prevalence at 5%

Substituted with p of 36.1% prevalence practice of vaginal insertion of substance for dry sex by women found in a study[18] in Meru

$$\frac{1.96 \times 1.96 \times 0.361 \times (1-0.361)}{0.05 \times 0.05} = \mathbf{354}$$

= sample size of **354** arrived at and was studied.

INCLUSION AND EXCLUSION CRITERIA

All pregnant women coming to attend the antenatal clinic and consenting to participate in the study were included. Those opting not to be recruited in the study were excluded.

VARIABLES

As in any epidemiological study, to characterize and describe the population under study, socio-demographic information of the participants was collected and recorded. This included age, gravidity, marital status, religion, ethnicity, residence, education and occupation. Variables and data on vaginal practices related to sex among the study population are of main interest to the study. These are mainly practice of such practices, modes of and agents used for such practices, reasons for the practices, perceived benefits and experienced adverse effects of the practice and participants responses to these were sought for through the interviews and carefully recorded for each.

DATA COLLECTION TOOL

Designed structured questionnaires were used to collect data from pregnant women recruited at the antenatal clinic. The questionnaire was in 4 parts:-

Section A - socio-demographic data

Section B –vaginal practice

Section C – reasons for the practice

Section D – effects of the practice

Complete questionnaire is attached as appendix III.

Through series of meetings with local educated women leaders from the area appropriate and representative vernacular translations of interview questions were derived. Research assistant, a female nurse working in ANC at the hospital and a local was identified. She was oriented on the study concept and objectives. Derived appropriate translations of the interview questions were harmonized with her. The questionnaires were put to test at the clinic and it was found that the questions were easily translated, well understood and elicited appropriate responses. There were no difficulties experienced recording responses in the questionnaires. Satisfied, adequate questionnaires were printed in readiness for data collection exercise.

DATA COLLECTION

Hospital administration was informed and their consent and support for the study secured. In-charges of the antenatal clinic were informed and oriented on the study for their all necessary help and cooperation. With their help, private room was identified for private interviews. The conduct of the interviews, all through, was done in such away that there were minimal disruptions of clients flow. Clients were mostly recruited either while waiting in the queue to be attended at the clinic or after they were through with the routines of the clinic. Prospective recruits were presented with consent explanation documents which bore information on the study and mode of recruitment. For those who could not read, translation of document was availed. They were allowed to keep and carry home these documents. Those willing to participate were given written consent forms to sign or thumb print. The signed forms were retained for compiling. The structured questionnaires were then administered to those consenting with ready, precise translation available to prompt representative appropriate response. The subjects' responses were

carefully recorded in respective questionnaire. Completed questionnaires were filed for onward compilation.

DATA ANALYSIS

All collected data were carefully recorded. Open ended data were grouped and coded. Data were then entered into micro- computer. SPSS computer package was used to analyse the data after validation. Data analysis involved descriptive statistics like means and standard deviations, medians and inter-quartile ranges, proportions and frequency distributions. To test for differences between those practising and those not practising, student t-test was used for continuous data that was normally distributed and Mann-Whitney U-test for non-normally distributed continuous data. For categorical data chi-square test and Fisher's Exact probability test where applicable were used.

ETHICAL ISSUES

Matters of sexuality, which this research touches on, are very private and often not discussed with anyone except close confidants. Consent for inclusion in to the study was sought for through consent explanation document and written consent forms. To gain their confidence, respondents were assured that they would not be identified by names. Adequate explanation was provided. Interviews were conducted in a private room to accord privacy. The subjects had the freedom to answer all, any, or none of the interview questions. Strict confidentiality of information was reassured. The respondents were further assured that publication of this study will not reflect identity of the individual and that there will be no unauthorized access to the data during storage, analysis or archiving.

All procedures and conduct of this study was scrutinized and approved by Department of Obstetrics and Gynaecology University of Nairobi, Kenyatta National Hospital/UON Ethical Committee and the institution where the study was carried out.

BENEFIT TO STUDY SUBJECTS

No kind of rewards or inducements, monetary or otherwise, were offered to study subjects for participating. This was clearly declared in the consent explanation documents and forms used at recruitments. Participants received the standard care package usually offered at the clinic in unison with other clinic attendants who did not participate in the study.

STUDY LIMITATIONS

1. The Cushitic tradition and culture is a very conservative and seclusive one. Matters of sexuality are not discussed as such and many of the mothers were shy to respond to the interview questions. . However the mothers being antenatal attendants , they were a better informed group with health seeking behavior and had already established rapport with service providers at the clinic, they were easily prompted to respond with little explanation encouragement and reassurance.
2. There was high level of illiteracy among the mothers studied, as is common with marginal areas. Recruitment of educated research assistants who could speak the local language helped greatly in interpretation of interview questions allowing adequate communication during interviews.
3. The subject of the study was quite sensitive and posed hindrance to access of information. This was circumvented through adequate counseling.
4. Being cross-sectional in design, this study cannot establish whether the reasons given by respondents preceded the vaginal practices.

STUDY RESULTS

A total of 356 antenatal mothers were interviewed during the study period. The results of their responses are presented below.

Table 1 shows that the indigenous population consisting of Cushites and Nilotes constituted 62.4% while the non-indigenous population consisted of 37.6%.the indeginous were mainly cushites (77%) made up mainly by the Boran (41.9%), Somali (16.2%), and Sakuye (13.1%). The Turkana make up the majority of Nilotes.

Table 1: Ethnic composition of the respondents, N=356

Ethnicity	***No.***	***Percentage (%)***
Ethnic origin (N=356)		
Indigenous	***222***	***62.4%***
Non-indigenous	***134***	***37.6%***
Specific broad ethnic categories		
Indigenous (N=222)		
Cushites	*177*	*77.0%*
Nilotes	*51*	*23.0%*
Specific ethnic categories		
Indigenous (N=222)		
Boran	*93*	*41.9%*
Somali	*36*	*16.2%*
Sakuye	*29*	*13.1%*
Gabra	*7*	*3.2%*
Garri	*4*	*1.8%*
Rendille	2	0.9%
* Turkana	46	20.7%
**Samburu*	*5*	*2.3%*
Non-indigenous (N=134)		
Meru	*126*	*94.0%*
Others	*8*	*6.0%*

* *Nilotes*

Table 2: socio-demographic and reproductive characteristics

Characteristics	*Subjects*		
	Indigenous (N=222) No. (%)	*Non-indigenous (N=134) No. (%)*	*Total (N=356) No. (%)*
Age distribution			
< 20	*30 (13.5)*	*11 (8.2)*	*41 (11.5)*
20-24	*49 (22.1)*	*31 (23.1)*	*80 (22.5)*
25-29	*59 (26.6)*	*64 (47.8)*	*123 (34.6)*
30-34	*33 (14.9)*	*15 (11.2)*	*48 (13.5)*
>= 35	*51 (23.0)*	*13(9.7)*	*64 (18.0)*
Gravidity			
1	*70 (31.5)*	*50 (37.3)*	*120 (33.7)*
2	*71 (32.0)*	*58 (43.3)*	*129 (36.2)*
3	*36 (16.2)*	*18 (13.4)*	*54 (15.2)*
4	*29 (13.1)*	*5 (3.7)*	*34 (9.6)*
> = 5	*16 (7.2)*	*3 (2.2)*	*19 (5.3)*
Education level			
None	*87 (39.2)*	*6 (4.5)*	*93 (26.1)*
Primary	*99 (44.6)*	*70 (52.2)*	*169 (47.5)*
Secondary	*32 (14.4)*	*55 (41.0)*	*87 (24.4)*
Post secondary	*4 (1.8)*	*3 (2.2)*	*7 (2.0)*
Marital status			
Single	*9 (4.1)*	*35 (26.1)*	*44 (12.4)*
Married	*196 (88.3)*	*88 (65.7)*	*284 (79.8)*
Divorced/separated / Widowed	*17 (7.7)*	*11 (8.2)*	*28 (7.9)*
Religion			
Muslim	*167 (75.2)*	*2 (1.5)*	*169 (47.5)*
Christian	*55 (24.8)*	*132 (98.5)*	*187 (52.5)*
Occupation			
Unemployed/housewife	*162 (73.0)*	*58 (43.3)*	*220 (61.8)*
Gainful employment	*31 (14.0)*	*45 (33.6)*	*76 (21.3)*
Business	*29 (13.1)*	*31 (23.1)*	*60 (16.9)*

Table 2 shows the distributions of the two broad ethnic categories of the antenatal mothers studied by socio-demographic and reproductive characteristics. Although it is not the objective of this study to compare the socio-demographic and reproductive characteristics of the study subjects, the indigenous communities who were mostly Cushites, from the out set presumed to have more prevalence and severe forms of TVPs in view of their conservative culture and poor SES relative to other more affluent communities were the interest of this study. In order to relate the prevalence and forms of TVPs found among the indigenous communities to their specific SDCs, there was need to determine these ethnicity specific profiles. Generally the indigenous population had significantly more proportion of pregnant mothers 30 years and above (37.9 vs. 20.9%; p=0.002), significantly higher proportion of mothers of birth order of gravidity 3 and above (36.5 vs. 19.4%; p=0.002), were significantly less learned with higher rate of education level of primary and below (83.8 vs. 56.7%; p=0.004), and had significantly higher proportion of Muslims (75.2 vs.1.5%; p<0.001).

Table 3 shows that the overall prevalence of TVPs among the study subjects was 42.7%. Vaginal smoking constituted 55.9% of the practices, vaginal irrigation with various liquids 29.6%, burning with hot objects 13.3%, insertion of substances 11.2%, stitching of vagina 3.3% and drying with cloths 1.3%. The table also shows the various substances used for vaginal irrigation and insertion. Of the liquids used for vaginal irrigation the most frequently used were salty water (24.4%), soft drink Coca cola/Sprite (22.2%), domestic bleach JIK (20.0%) and plain water (13.3%). Plant products, cotton wool and some commercially sold foaming tablet were the most frequently inserted substances in to the vagina.

Table 3: Prevalence of traditional vaginal practices among the study subjects

Vaginal practice	*Proportions of Subjects practicing*	
	N	***No. (%)***
Ever practiced	***356***	***152(42.7)***
Types of practice	***152***	
Smoking of vagina		*85 (55.9)*
Irrigating with liquids		*45 (29.6)*
Burning with hot objects		*20 (13.2)*
Insertion of substances		*17 (11.2)*
Stitching to reduce size		*5 (3.3)*
Drying vagina with cloth		*2 (1.3)*
Substances inserted	***17***	
Ground plants		*8 (47.1)*
Dry cotton wool		*4 (23.5)*
Foaming tablets+		*3 (17.6)*
Plant gum		*2 (11.8)*
Irrigation liquid	***45***	
Salty water		*11(24.4)*
Soda coca cola or sprite		*10 (22.2)*
*Jik (domestic bleach)**		*9 (20.0)*
Plain water		*6 (13.3)*
Commercially sold virginity- soaps		*4(8.9)*
Lemon juice		*3(6.7)*
Water with magadi (soda lime)		*2 (4.4)*

+ tablets sold commercially, foam on insertion in to the vagina

* Sodium hypochlorite

Table 4: Invasive Vaginal Practices by broad ethnic categories

Invasive practices	*Broad ethnic categories*				
	Indeginous		*Non-indeginous*		*p-value*
	N	*No. (%)*	*N*	*No. (%)*	
Ever practiced any type	***222***	***118 (53.2%)***	***134***	***34 (25.4%)***	***<0.001***
Ever practiced invasive* types	***118***	***25 (21.2)***	***34***	***0 (0.0)***	***0.008***
Practiced only non-invasive+ types		***93 (78.8)***		***34 (100)***	***<0.001***
Specific invasive types	***25***		***0***		
Burning of vagina		*20 (80.0)*		*0 (0.0)*	-
Stitching to reduce size		*5 (20.0)*		*0 (0.0)*	-
Specific non-invasive types	***93***		***34***		
Smoking of vagina		*85 (91.4)*		*0 (0.0)*	*<0.001*
Irrigation with liquids		*16 (17.2)*		*29 (85.3)*	*<0.001*
Insertion of substances		*14 (15.1)*		*3 (8.8)*	*0.557*
Drying with cloth		*0 (0.0)*		*2 (5.9)*	*0.070*
Substances inserted	***14***		***3***		
Ground plants		*8 (57.1)*		*0*	*0.206*
Dry cotton wool		*3 (21.4)*		*1*	*1.000*
Foaming tablets+		*1 (7.1)*		*2*	*0.331*
Plant gum		*2 (14.3)*		*0*	*1.000*
Irrigation liquid	***16***		***29***		
Salty water		*2 (12.5)*		*9 (31.0)*	*0.279*
Soda coca cola or sprite		*4 (25.0*		*6 (20.7)*	*0.726*
*Jik (domestic bleach)**		*0 (0.0)*		*9 (31.0)*	*0.017*
Plain water		*4 (25)*		*2 (6.9)*	*0.166*
Commercially sold virginity- soaps		*2 (12.5)*		*2 (6.1)*	*0.608*
Lemon juice		*2 (12.5)*		*1 (3.4)*	*0.285*
Water with magadi (soda lime)		*2 (12.5)*		*0 (0.0)*	*0.121*

* Practices that involve cutting, piercing or destruction at outset of skin, mucosa or beyond.
+ practices that involve topical application only

Table 4 shows the prevalence of various classes of TVPs by the broad ethnic category of Indeginous and Non-indeginous. The overall practice of TVPs was significantly more prevalent among the indeginous group (53.2 Vs 25.4%; P<0.001). The invasive practices consisting of vaginal burning with hot objects and stitching were significantly exclusive to the indeginous communities (21.2 Vs 0.0%; p=0.008).

On the other hand, the non- invasive modes which include vaginal smoking, irrigation, substance insertion and drying with clothes were significantly more predominant among the Non-indeginous (100 Vs 78.8%; P<0.001). Despite this, the non-invasive vaginal smoking was significantly exclusive to the indeginous group (91.4 Vs 0.0%; P<0.001) and there were no statistically significant differences between the two ethnic categories on the practices of vaginal insertion of substances and drying with clothes (15.1 Vs 8.8%; P=0.557 and 0.0 Vs 5.9%; p=0.07 respectively).

Although vaginal irrigation was significantly more prevalent among the non indeginous, there were no significant differences between the two ethnic categories on the type of liquids used for irrigation (p>0.05) except the use of the domestic bleach JIK which was significantly exclusive to the non indeginous group (31.0 Vs 0.0%; p=0.017). On the substances inserted into the vagina, there were no statistically significant differences between the two ethnic categories on the type of substances inserted (p>0.05).

Table 5 shows effects of socio-demographic and reproductive characteristics on the prevalence of TVPs in a univariate analysis. Traditional Vaginal Practices were significantly more prevalent among pregnant subjects who were ever married than those who were singles (43.9 vs.34.1%; p =0.007).

The table show that prevalence of Traditional Practices increases with gravidity. Prevalence increased progressively with gravidity from 24.2% among primigravidas to 63.2% among those gravida five and above through 48.1%, 53.7% and 58.8% for gravida two, three and four respectively. These prevalence

increases with gravidity are found significant, $p < 0.001$. Significantly more Muslim women practiced Traditional Vaginal practices than the Christians (58.9 vs. 28.9%; $p < 0.001$). Education had significant impact on prevalence of Traditional Practices. Prevalence among those without any formal education was 63.4% compared to 37.3% for those with primary level and 31.2% for those with secondary level and above education. The differences in the prevalence with education levels were found significant, $p < 0.001$. There are no significant differences ($p = 0.07$) between the prevalence of Traditional Vaginal practices among those unemployed (454.5%), those in gainful employments (31.6%) and those in business or were farmers (50.0%).

Table 5: Prevalence of traditional vaginal practices by socio-demographic characteristics

Socio-demographic characteristics	*Ever practiced vaginal practice*		P – value
	N	*No. (%)*	
Age			
< 20	*41*	*8 (19.5)*	
20-29	*203*	*77 (37.9)*	*<0.001*
>= 30	*112*	*67 (59.8)*	
Marital status			
Single	*44*	*15 (34.1)*	
Married	*284*	*117 (41.2)*	*0.007*
Divorced/separated/widowed	*28*	*20 (71.3)*	
Religion			
Muslim	*169*	*98 (58.0)*	*< 0.001*
Christian	*187*	*54 (28.9)*	
Gravidity			
1	*120*	*29 (24.2)*	
2	*129*	*62 (48.1)*	
3	*54*	*29 (53.7)*	*<0.001*
4	*34*	*20 (58.8)*	
>=5	*19*	*12 (63.2)*	
Education			
None	*93*	*59 (63.4)*	
Primary	*169*	*63 (37.3)*	*< 0.001*
Secondary/Post-secondary	*94*	*30 (31.2)*	
Occupation			
Unemployed/Housewife	*220*	*98 (44.5)*	
Gainful employment	*76*	*24 (31.6)*	*0.07*
Business/Farmer	*60*	*30 (50.0)*	
Broad ethnic category			
Indigenous	*222*	*118 (53.2)*	*<0.001*
Non-indigenous	*134*	*34 (25.4)*	

	Parameters	B	SE	Wald	Sig.	Exp(B)	95% CI	
							Lower Bound	Upper Bound
	Intercept	-1.77	1.49	1.42	0.233			
Age	< 20	-0.27	0.63	0.19	0.661	0.76	0.22	2.60
	20-29	0.64	0.38	2.83	0.092	1.89	0.90	3.97
	≥30	reference	group					
Gravidity	1	-0.62	0.69	0.82	0.366	0.54	0.14	2.07
	2	-0.08	0.64	0.01	0.903	0.92	0.26	3.26
	3	-0.10	0.69	0.02	0.882	0.90	0.23	3.48
	4	-0.33	0.71	0.22	0.639	0.72	0.18	2.88
	≥30	reference	group					
Marrital Status	Single	0.00	0.66	0.00	0.999	1.00	0.27	3.63
	Married	-0.67	0.49	1.87	0.172	0.51	0.20	1.34
	Divorced/Sep./Widowed	reference	group					
Religion	Muslim	1.62	0.41	15.59	0.000	5.04	2.26	11.25
	Christian	reference	group					
Ethinicity	Indigenous	0.14	0.43	0.11	0.741	1.15	0.49	2.69
	Non_Indigenous	reference	group					
Residence	Within Isiolo Town	-0.07	0.48	0.02	0.886	0.93	0.36	2.40
	Outside Isiolo Town	reference	group					
Education	None	0.91	0.58	2.46	0.117	2.50	0.80	7.82
	primary	-0.54	0.57	0.88	0.348	0.58	0.19	1.80
	post-secondary	reference	group					
Occumpation	Unemployed	-0.39	1.31	0.09	0.769	0.68	0.05	8.94
	Employed	-0.12	1.31	0.01	0.927	0.89	0.07	11.66
	Business	0.40	1.32	0.09	0.764	1.49	0.11	19.87
	Other (Farmer)	reference	group					

TABLE 6: MULTIVARIATE ANALYSIS

Table 6 is a multivariate regression analysis of the same socio-demographic factors. In this analysis only religion was found to affect the practice of Traditional Vaginal Practices independently.

Table 7 shows how Traditional Vaginal practices were begun. Of the 152 antenatal mothers who had ever practiced, 83.6% report starting the practices either naturally as cultural obligation or after being introduced to by friends. 11.8% of them point to relatives to having introduced them to the practice. The remaining few (4.7%) mention variously the husbands, seminars, chemists and others not specified to be the sources of such recommendation.

Table 7: Reasons for starting Traditional Vaginal Practices (N =152)

Reasons	***No.***	***Percentage (%)***
Natural/Cultural obligation	*62*	*40. 8*
Influence by friends	*62*	*40.8*
Influence by relatives	*18*	*11.8*
Other recommendations (husbands, seminars, chemists)	*10*	*4.7*

Table 8 shows the various reasons sited by the respondents as to why they practice TVPs. The most frequently sited reasons by both ethnic categories were treatment of vaginal discharge/infections, drying of vagina for dry sex, improvement of vaginal smell, cleansing of vagina, tightening of vagina for sex and prevention reproductive tract infections. Drying of vagina for sex, cleansing of vagina and vaginal tightening as reasons for TVPs were significantly more among the Non-indigenous group ($p<0.05$).

Improvement of vaginal smell on the other hand was significantly more sited by the indeginous group (65.3vs 35.3%;p=0.002). There was no significant difference between the two ethnic categories on responses of treatment and prevention of discharges/infections as reasons for TVPs (p>0.05).

Table 8: Reasons for practicing traditional vaginal practices by broad ethnic categories

Reasons for practice	***Broad ethnic categories***		
	Indeginous (N=118) No. (%)	***Non-indeginous (N=34) No. (%)***	***P value***
Treatment of vaginal discharge/ vaginal infections	*76(64.4)*	*25(73.5)*	*0.321*
To dry vagina in order to have dry sex	*60(50.8)*	*29(85.3)*	*<0.001*
To improve on vagina smell	*77(65.3)*	*12(35.3)*	*0.002*
To cleanse vagina	*34(28.8)*	*28(82.4)*	*<0.001*
To tighten vagina for sex	*48(40.7)*	*23(67.6)*	*0.005*
To prevent infections of reproductive tract	*33(28.0)*	*12(35.3)*	*0.410*
To smoothen skin /makes one look beautiful	*8 (6.8)*	*0*	-
To improve fertility	*6 (5.1)*	*0*	-
To please and charm the spouse in to loving more	*3 (2.5)*	*0*	-
For good and attractive body smell	*1 (0.8)*	*0*	-
To makes oneself comfortable and more active	*1 (0.8)*	*0*	-
Treatment of back pains	*1 (0.8)*	*0*	-
To regain virginity	*1 (0.8)*	*0*	-

The variables with – have very small values and are ignored.

Table 9 shows the perceived benefits of traditional vaginal practices sited by the respondents. The most frequently sited benefits were increase of sexual pleasure during coitus, improvement of vaginal smell, maintenance of vagina comfortably dry and clean and prevention and cure of vaginal discharges and infections. Increased sexual pleasure for spouse was sited by 83.1% of the indeginous and 91.2% of the Non-indeginous and there was no significant difference (P=0.372). More sexual pleasure (74.6 vs. 88.2%, p=0.147), alleviation of discomfort of vaginal wetness (72.9% vs. 79.4%, p=0.586), cure of

vaginal discharge and infections (52.5% vs. 50.0%, p =0.947), and prevention of infections (28.8% vs. 32.4, p=0.853) were not significantly different between the two groups.

Table 9: Perceived benefits accrued from traditional vaginal practices by broad ethnic categories

Perceived benefits	***Broad ethnic categories***		
	Indeginous (N=118) No. (%)	***Non-indeginous (N=34) No. (%)***	***P value***
More sexual pleasure for spouse	*98 (83.1)*	*31 (91.2)*	*0.372*
More sexual pleasure for self	*88 (74.6)*	*30 (88.2)*	*0.147*
Good and attractive vaginal smell	*101(85.6)*	*17(50.0)*	*<0.001*
Alleviate discomfort of vaginal wetness	*86 (72.9)*	*27(79.4)*	*0.586*
Clean vagina	*60 (50.8)*	*28 (82.4)*	*0.004*
Cures vaginal discharge/ infections	*62 (52.5)*	*17(50.0)*	*0.947*
Prevents infections	*34(28.8)*	*11(32.4)*	*0.853*

Table 10 is a frequency table of immediate (during their performance or thereafter before coitus) adverse effects of vaginal practices experienced by invasiveness of types. The table shows that foul smelling vaginal discharge, vaginal wounds, swelling and urinary problem were the most commonly reported adverse effects occurring during conduct of vaginal practices and thereafter before coitus. These adverse effects occurred more significantly ($p< 0.05$) among those mothers who had ever practiced invasive types of vaginal practices (burning and stitching) except for vaginal tingling and burning sensation in which there was no significant difference (0% vs. 6%, p=0.590).

Table 10: Immediate adverse effects experienced as a result of Traditional Vaginal practices by invasiveness of the practices.

Adverse effect	*Broad types of vaginal practices*		
	Invasive (N=25) *No. (%)*	***Non- invasive (N=127)*** *No. (%)*	***P value***
Foul smelling vaginal discharge	*22 (88.0)*	*10 (7.9)*	*<0.001*
Pain	*13 (52.0)*	*17 (13.4)*	*<0.001*
Vaginal wound (cut or burn)	*10 (40.0)*	*9 (7.1)*	*<0.001*
Vaginal swelling	*11 (44.0)*	*7 (5.5)*	*<0.001*
Urinary problem	*10 (40.0)*	*3 (2.4)*	*<0.001*
Vaginal tingling/burning sensation	*0(0.0)*	*6 (4.7)*	*0.590*

Table 11 shows sexual difficulties experienced during coitus with traditional vaginal practices among antenatal mothers who had ever practiced by invasiveness of practices. Evident from the table, superficial dyspereunia, Persistent post coital pain, Deep seated dyspereunia, Excessive vaginal dryness, vaginal injuries, Failure of penetration by the partner and spouses' penile injuries were the major experienced sexual difficulties during coitus with traditional vaginal practices. Superficial dyspereunia, persistent post coital pain, deep seated dyspereunia, vaginal injuries, failure of penetration by the partner and lower abdominal pain occurred more significantly among those practicing invasive practices ($p<0.05$). Excessive vaginal dryness however occurred significantly more among those who practice Non- invasive vaginal practices ($p<0.05$). There are no significant differences between the two groups on report of penile injuries and itching and tingling or burning sensations ($p>0.05$)

Table 11: Sexual difficulties experienced during coitus with traditional vaginal practices

Sexual difficulties	*Broad types of vaginal practices*		
	Invasive (N=25) No. (%)	***Non- invasive (N=127) No. (%)***	***P value***
Superficial dyspereunia	*15 (60)*	*22 (17.3)*	*<0.001*
Persistent post coital pain	*18 (72)*	*10 (7.9)*	*<0.001*
Deep seated dyspereunia	*17 (68)*	*5 (3.9)*	*< 0.001*
Excessive vaginal dryness	*0 (0.0)*	*22 (17.3)*	*0.026*
Vaginal injuries	*11 (44.0)*	*11 (8.7)*	*<0.001*
Failure of penetration by the partner	*5 (20.0)*	*6 (4.7)*	*0.019*
Penile injuries to the spouse	*1 (4.0)*	*9 (7.1)*	*1.000*
Tingling/ burning sensation	*0 (0.0)*	*3 (1.6)*	*1.000*
Lower abdominal pains	*2 (8.0)*	*0 (0.0)*	*0.026*
Itching of spouse penis	*0 (0.0)*	*2 (1.6)*	*1.000*

DISCUSSION

This study has shown that Traditional Vaginal Practices (TVPs) are prevalent among women attending Antenatal Clinic at Isiolo. This study utilizes the opportunity of access gained due to the women voluntarily attending the antenatal clinic and the bond of trust established between the care givers at the clinic and the mothers in order to gain access to this often confidential information.

Prevalence of the practice was much higher among the Indeginous women with Non-indeginous ones practicing the less invasive practices.

The study reviews new aspects of TVPs in seclusive communities and poses a challenge to the government and policy makers, to not only acknowledge that these harmful traditional practices go on within these communities, but also conduct operational research that would culminate in to putting in place measures that will reduce their practices within communities.

Similar practices have been described in other African countries and around the world including Benin, Cote d'Ivoire, Nigeria, Senegal, Cameroon, Zaire, Malawi, Zambia, Zimbabwe, Mozambique, Tanzania, Somalia and South Africa.(Brown JE and colleague 2000[17], Olugbenga J and colleague 2002[19]). Similar practices have been described in Haiti, the Domican republic, U.S.A, South-east Asia and Middle East countries. (Halperin, D. 1999).[20] In Kenya, Meru, Schwandt M and others in 2006[18] found a 36.1% prevalence of vaginal insertion of substances for dry sex among CSWs. It is likely that this prevalence was lower than that found in this study as expected variation of these practices and due to the fact that this study considered broader types of vaginal practices. Prevalence reported from the other African countries were much higher than that found in this study. A recent study found prevalence of 67% in Uganda and 60% in Zimbabwe of vaginal practices (Van de Wijgert et al. 2002).[34] Nyarienda[24]

described 86% prevalence of vaginal practices among cohort of women in Lusaka Zimbabwe. In Kwazulu Natal, the prevalence of the practice was found to be 80% by Beksinska and colleagues in 1999 [27]. Still, these higher figures are likely to be due to variations from region to region. In these studies mostly the subjects were CSWs with multiple sexual partners and they included ambiguous practices like drinking of concoctions and eating of specific food to have vaginal effects. The difference could still be due to difference in age with which the prevalence of TVPs varies. Antenatal clients tend to be younger hence the lower prevalence found in this study.

Evident from the study, sexual pleasure for self and spouse is the most important reason for TVPs. Yet, it is a paradox that these practices, especially the invasive ones which were mostly practiced by the Indeginous women, were associated with sexual difficulties that one would expect to hinder the achievement of the same. That enhanced sexual pleasure was reported by most of the women is a clear indication of the enormous psychological input in the achievement of the perceived enhanced sexual pleasure with the practices. The mere contentment of being able to please and sexually satisfy the spouse may be just enough to lay a high platform for achievement of sexual pleasure among these women.

Another glaring reason for the practice the study found is prevention and treatment of reproductive tract infections. Paradoxically, secondary infections were among the adversities of the practices reported. Still, the other adversities also directly or indirectly cause breakdown of natural infection barriers of the reproductive tract. Moreover, the practices may mask symptoms of infection with inadequate effective treatment leading to eventual ascending infection with severe consequences on reproductive health.

The study also shows other important aspects of Traditional Vaginal Practices. Religion was found to significantly and independently affect the practice of TVPs. Being a Muslim was significantly associated with the practice. Although the effect was not found to be independent, education has good relation with prevalence and types of vaginal practices. This implies that there exists window of opportunity of curbing these untoward practices through formal education and health education on the adversities. Other studies in other parts of Africa show similar association of education (Beksinska and colleagues in 1999 [27])

The study also reveals that generally women disliked vaginal secretions and preferred their vagina to be dry. This implies that acceptability by women of vaginal microbicides for control of HIV/AIDS currently on trial may posse a considerable hitch in its introduction.[40]

CONCLUSIONS

1. Traditional vaginal practices are highly prevalent among Cushitic, Nilotic and Bantu, women attending antenatal clinic at Isiolo district hospital.
2. Both non invasive and invasive TVPs were more common among Cushitic and Nilotic women compared with Bantu with preponderance of invasive methods among the Cushitic and Nilotic.
3. Most important reason given for practice of TVPs was mainly for enhancement of sexual pleasure for self, spouse or both. Treatment of infections is also another main reason for the practice.
4. Common adverse effects experienced after TVPs were sexual dysfunctions, pain and infections.
5. Being a Muslim was significantly associated with the practice of TVPs and the association was found to be independent of other factors. However, though not independently, the significant impact of formal education on lowering prevalence of TVPs should be appreciated as it is a feasible target for intervention.

RECOMMENDATIONS

1. Muslim religious leaders should be recruited into intervention programs. This should be coupled with efforts to elevate the general level of formal education in the community in order to enhance the level of understanding of adverse effects of Traditional Vaginal Practices.
2. The government should play a part in designing programs that increase the awareness of side effects of TVPs in all opportunities available such as schools, antenatal cares and public meetings.
3. Male partners should be involved in education in order to enhance decision making in deterring TVPs since perceived benefits are significantly skewed towards male sexual pleasure.
4. Further research, including operational research, is needed in order to enhance opening up of the communities regarding TVPs and their adverse effects

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APPENDIX I

CONSENT EXPLANATION DOCUMENT

Introduction

My name is Dr Adan Dima of university of Nairobi, department of obstetrics and gynecology. I am conducting a questionnaire based study on vaginal practices related to sex and its effects on reproductive health in part fulfillment for Degree of Master in Medicine in obstetrics and gynecology. The study has been approved by UoN/KNH ethics research committee.

Objectives of the study

The reasons why this research needs to be done is that a lot of such practices go on in our communities yet the extent and effects has never been established.

The objectives of the study are mainly to determine the extent of the practice in the community, find out reasons why the practices are done and to determine perceived benefits and ill effects of the practices.

Participant

The participants for this study will be all pregnant women attending antenatal clinic at this hospital during period of study and are willing to participate.

Voluntary nature of participation

Participation will be totally voluntary. Participants will be explained to adequately in language they just understand. They will be given chance to ask questions to which answers will be provided to their satisfaction. On opting to participate they will be required to sign/thumbprint written consent.

Privacy and confidentiality

Participants will be accorded auditory and visual privacy during the interview sessions. The information recorded will bear no identifications and will not be accessed by other unauthorized persons. The hand copies will be stored by the principal investigator.

Risk and benefits

The study will not in any way pose any health risk to you as it is questionnaire based. They may be some discomfort regarding personal questions involved. It is my expectation that the findings of this study, especially of possible ill effects, will benefit the community.

Monetary/ other rewards for participation

There will be no monetary benefit or rewards or specific special care for opting to participate in the study. All participants shall receive the standard care package usually offered at the clinic.

Yours sincerely,

Dr. Adan Dima
P.O. Box 16124 - 00610
Email; dimaadan@yahoo.com
Mobile; 0722535342

APPENDIX II

CONSENT FORM

I, _____ (full names) have been explained to/read and fully understood about the study and nature of interview and opt on my free will to participate. I have been given a chance to ask questions and have been answered to my satisfaction.

Sign/thumb print _____

Witness: Dr. Adan Dima/Research assistant

Sign: _____

Note: kindly contact the following for clarification regarding your participation in this study.

1. DR. ADAN DIMA.
   P.O BOX
   E-MAIL- dimaadan@yahoo.com
   MOBILE- 0724807677

2. THE CHAIRPERSON
   KNH/UON ERC
   KENYATTA NATIONAL HOSPITAL
   Hospital Road along Ngong Road
   P.O Box 20723, Tel 726300-9 Nairobi.
   Telephone: 726300-9
   Fax:725279
   Telgrams: MEDSUP", Nairobi.
   Email: KNHplan@ken.Healthnet.org

APPENDIX III

DATA COLLECTION QUESTIONNAIRE

CODE ;_____

SECTION A

(please tick and answer as appropriate)

1 Age of the client in years _____

2 How many pregnancies including current, has the respondent had? (gravidity) _____

3 Current marital status

a. married ( ) b. widow ( ) c. divorced/separated ( ) d. single ( )

4 Religion

a. Muslim ( ) b. Christian ( ) c. others ( )

5 Ethnicity

a. Boran ( ) b. Gabra ( ) c. Sakuye ( ) d. Somali ( )

e. Turkana ( ) f. Meru ( ) g. Others ( ), specify _____

6 Residence

a. within Isiolo town ( ) b. outside Isiolo town ( )

7 Education level of respondent

a. none ( ) b. primary ( ) c. secondary ( ) d. post-secondary ( )

8 Occupation of the respondent

a. unemployed/ house wife ( ) b. gainful employment ( ) c. business ( )

SECTION B

(please tick and answer as appropriate)

1. Have you ever practiced any form of vaginal practices related to sex?

   a. yes ( ) b. No ( )

2. If yes, which one(s) from below have you ever practiced?

   a. insertion of special substances yes ( ) no ( )

      If yes, what substances do you use? _____

   b. washing or irrigating with liquids yes ( ) no ( )

      If yes, what liquids do you use? _____

   c. smoking of vagina with special preparation yes ( ) no ( )

   d. burning of the of vagina with hot objects yes ( ) no ( )

   e. stitching of vagina to reduce the size yes ( ) no ( )

   f. are there other methods you've practiced? yes ( ) no ( )

      specify_____

      _____

      _____

      _____

      _____

      _____

3. Who recommended these practices to you?

   a. Community obligation ( ) b Friends ( )

   c. Relatives ( ) d. Husband ( )

   e. Others, ( )

SECTION C

(please tick and answer as appropriate)

I. From below which are the reasons why you have chosen to have the vaginal practices?

i)	To dry the vagina in order to have dry sex.	Yes ( )	No ( )
ii)	To tighten vagina for sex.	Yes ( )	No ( )
iii)	To improve on vaginal smell.	Yes ( )	No ( )
iv)	To cleanse the vagina	Yes ( )	No ( )
v)	To prevent vaginal infections.	Yes ( )	No ( )
vi)	To treat vaginal discharge and/or other vaginal infections.	Yes ( )	No ( )
vii)	Are there other reasons for you practicing?	Yes ( )	No ( )

If yes, list them; _____

_____

_____

_____

_____

SECTION D

(please tick and answer as appropriate)

1. From your experience of vaginal practices, which of below include the benefits of the practice you have observed so far?

i)	Increase sexual pleasure for my partner during intercourse	Yes ( )	No ( )
ii)	Increase my sexual pleasure during intercourse	Yes ( )	No ( )
iii)	Helps to reduce the discomfort of excessive vaginal wetness	Yes ( )	No ( )
iv)	Keeps the vagina clean	Yes ( )	No ( )
v)	It keeps infections away	Yes ( )	No ( )
vi)	Treats vaginal discharge and/or other infections	Yes ( )	No ( )
vii)	Gets rid of bad vaginal smell and/or imparts attractive good smell.	Yes ( )	No ( )
viii)	Are there other benefits you observed?	Yes ( )	No ( )

If yes, list them; _____

_____

_____

_____

_____

2. During the performance of the vaginal practices you have practiced and/or there after before sex, do you experience the following?

a) Pain yes ( ) no ( )

If yes, with which practice(s)

_____

_____

_____

_____

b) Vaginal swelling yes ( ) no ( )

If yes, with which practice(s)

_____

_____

_____

_____

c) Vaginal bleeding yes ( ) no ( )

If yes, with which practice(s)

_____

_____

_____

_____

d) Vaginal wound (cut or burn) yes ( ) no ( )

If yes, with which practice(s)

_____

_____

_____

_____

e) Foul smelling vaginal discharge yes ( ) no ( )

If yes, with which practice(s)

_____

_____

_____

_____

f) Urinary problem yes ( ) no ( )

If yes, with which practice(s)

_____

_____

_____

_____

g) Defecation problem yes ( ) no ( )

If yes, with which practice(s)

_____

_____

_____

_____

h) Any other problem experienced? yes ( ) no ( )

if yes, list them; _____

_____

_____

_____

_____

3. From your experience of sexual intercourse with vaginal practices, do you experience the following during sex following vaginal practices?

a) Failure of penetration by the partner yes ( ) no ( )

b) Superficial dyspereunia yes ( ) no ( )

c) Deep seated dyspereunia yes ( ) no ( )

d) Excessive vaginal dryness yes ( ) no ( )

e) Vaginal injuries yes ( ) no ( )

f) Persistent post coital pain yes ( ) no ( )

g) Penile injuries to the spouse yes ( ) no ( )

h) Other problems experienced? yes ( ) no ( )

If yes, list them; _____

_____

_____

_____

_____

4. Pertaining to condom use during sex with vaginal practices;
   a) Do you think using condoms during sex with vaginal practices reduces the benefits/ desired effects of such vaginal practices?
      Yes ( ) No ( )
   b) Do you think condoms are more likely to break during sex if used with such vaginal practices?
      Yes ( ) No ( )

5. Have you ever delivered after having started vaginal practices? Yes ( ) No ( )
   If yes, have you ever experienced the following during these deliveries after starting vaginal practices?

   a) difficult labour Yes ( ) No ( )
   b) vaginal tears Yes ( ) No ( )

5. Now that you have been practicing vaginal practices related to sex;

   a) Do you still think it is a good practice?

      Yes ( ) No ( )

   b) Would you recommend to the following?

      i) The community yes ( ) no ( )

      ii) Friends yes ( ) no ( )

      iii) Relatives yes ( ) no ( )

      iv) Your daughter yes ( ) no ( )

THE END
THANK YOU