

Knowledge levels and practice of dual contraception in prevention of unplanned pregnancy and sexually transmitted infections, including human immunodeficiency virus (HIV)

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Abstract: Globally, 20 million unsafe abortions occur each year and resulting in death of 80 000 women due to complications of unsafe abortion. Unplanned pregnancy is the major cause of induced abortion one of the leading causes of maternal mortality and morbidity in the world. Many women become pregnant unwillingly and most of them decide to end the pregnancy in abortions. The purpose of the study was to examine the relationship between knowledge levels and practice of dual contraception as a prevention of unplanned pregnancy, abortions, sexual transmitted infections including Human Immunodeficiency Virus (HIV) infection, among women aged 15 to 24 years at Morgenster mission hospital. A descriptive correlational design was used in this study. A sample size of 84 women was selected using convenient sampling technique. Forty-nine (58.3%) participants had reliable knowledge of dual contraception. Thirteen (15.4%) consistently used dual contraception. There was a positive significant relationship between knowledge levels and practice on dual contraception ($r = 0.3$; $p < 0.017$). The coefficient of determination was $R^2 = 0.07$ ($p < .017$) implying that knowledge was attributable to 7% of the variance in use of dual contraception. The simple regression coefficient was 0.2 ($SEB = 1.0$). Midwifery practice should emphasize on practice of dual contraception as of unplanned pregnancy, STIs including HIV during family planning sessions. Health workers should intensify family planning education and provision of free family planning education to young women.

Key Words: Abortion, Dual contraception, HIV, Knowledge and practices, Sexually Transmitted Infections.

I. Introduction

Women aged between 15 to 24 years old constitute almost half of the global population. However, they are twice as likely to die in childbirth compared to older women and comprise half of all new HIV infections (UNAIDS, 2010). Globally, 20 million unsafe abortions occur each year and eighty thousand women die because of complication following unsafe abortion (WHO, 2012).

Morgenster Hospital statistics showed that, women aged 15 to 24 years had the highest percentages of Antenatal care (ANC) attendance, deliveries, STIs, HIV and abortions. In 2014, 80 (55.2%) of booked pregnancies were women between 15 to 24 years of age. Sexual transmitted infections are a global public health problem because of its high prevalence for serious complications and predispose to transmission of HIV (Mambolea, 2012). Increased rates of unwanted pregnancies, sexual transmission infections (STIs) and Human Immune Virus (HIV) call for use of dual protection, which combines the condom either male or female with other contraception methods, pill, Depo Provera®, Jadelle® or permanent (sterilization) methods (Mtowo, Kasu and Mufunda, 2014). When used correctly and consistently condoms alone can serve a dual purpose of protecting against unwanted pregnancy and STIs, HIV and AIDS infections (Tyler, et al., 2013). According to Darter and Chinyere (2011) women aged 15 to 24 years, have 3 children before their 19th birthday showing lack of planning. This group of is at risk of having unwanted pregnancy, leading to unsafe abortions and contracting of STIs and HIV infections (Gomez, 2011). Morgenster statistics showed that among women who were tested for HIV from January to June 2014, 232 tested positive of whom 150 (64.7%) were aged 15 to 24 years (T5Forms, 2014). Out of 116 women who were diagnosed STIs infections 60 (51.9%) were aged 15 to 24 years (T5Forms, 2014). According to statistics from Morgenster female gynaecological ward, a total of 355 abortions were recorded from 2013 to 2014. Seventy percent of these were women aged 15 to 24 years and 30% were women aged 25 years and above (Gynaecological Admission book, 2013 to 2014). Most of these abortions were incomplete and septic. This concurred with World Health Organization (WHO) (2012), which estimated that at least 33% of all women seeking hospital care for complications related to abortions were less than 20 years of age.

A recent study done in Zimbabwe showed that between 60,000 and 80,000 unsafe abortions were performed in Zimbabwe every year mostly between the ages of 15 to 24 years (Zimind, 2014). A study done in Ghana showed that many countries in Africa including Ghana, young people aged 15 to 24 years were most at risk of early child bearing, planned pregnancies, unsafe abortions, sexual transmitted and HIV infections (Darter

& Chinyere, 2012). In Africa, 59% of unsafe abortions were performed by young women themselves exposing themselves to possible infections, bleeding, long term fertility problems and even death (SAFAIDS, 2011).

Darteh & Chinyere (2012) cited that young people aged 15 to 24 years, world over experienced risk of unplanned pregnancy and HIV infections because of their inadequate knowledge about sexual reproductive health. Sexual behaviours among youth, if uncontrolled could lead to negative outcomes of unplanned pregnancy and spread of STIs and HIV infections. So knowledge on dual contraceptives and contraceptive use were important indicators of sexual health among youth (Dann, 2010).

Unwanted pregnancy was the major cause of induced abortion, one of the leading maternal mortality and morbidity in the world (Calvert, et al., 2012). An estimation of 6.2million unsafe abortions are performed in Africa, and about 5.5million of them are in the Sub-Saharan countries. Worldwide statistics showed that 22million women have unsafe abortion of which most of them occur in developing countries (Mtowo, Kasu & Mufunda, 2014).

Contraceptives are devices or medications designed to prevent pregnancy. These include oral contraceptive, injectable that is Depo Provera and condoms (Calvert, et al., 2012).

Dual contraception; was defined as the use of two family planning methods, a condom and any other contraceptive methods to prevent unwanted pregnancy, abortion, STIs including HIV (Ntumba, Scort & Igumbor, 2012). Winner et al., (2011) cited that, correct and consistent use of dual contraceptive reduces incidents of human papillomavirus (HPV) infections by 70%.

The purpose of this study was to examine the relationship between knowledge and practice of dual contraception among the women aged 15 to 24 years

II. Methodology

Research Design

The study was done through a descriptive correlational design.

Study Site

The study setting was carried out at Morgenster Mission Hospital. Morgenster Mission Hospital is a secondary Health Care Centre in the rural Province of Masvingo, about 290 kilometres South East of the capital Harare. Morgenster mission hospital is a referral hospital of fifteen rural clinics and five rural hospitals. It is a 240 bedded hospital, offering Primary Health Care activities which include antenatal care, family child care, immunisation and family planning. Women of child bearing age, aged between 15 to 24 years were accessed as they came to seek for the above services. These were included because some had children and it was anticipated that they are sexually active.

Sample and data

A sample of 84 women aged 15 to 24 years, conveniently selected, was interviewed face to face as they came for health care services at Morgenster Mission Hospital. The sample was calculated based on Dobson formula, an effect size of 0.05, statistical power of 0.8 and 0.05 level of significance. Permission to carry out the study was granted by The Joint Parirenyatwa – College of Health Sciences Research and Ethics Committee and the Medical Research Council of Zimbabwe. Participants who gave informed consent were interviewed. Inclusion criteria included women aged between 15 and 24 years who could communicate in Either English or the vernacular Shona Language. Women in labour or too seriously ill to be interviewed were excluded. A pilot study with 10 participants was carried out prior to the actual study to enhance validity and reliability of the study. Data was collected at the antenatal clinic and maternity ward, in April and May 2015, through face to face interviews using a structured interview schedule. The data was subsequently analysed using the Statistical package for social sciences (SPSS) Version 20. Pearson correlation test was used to examine the relationship between knowledge level on dual contraception and practice regarding use of dual contraception.

III. Results

Sample Demographic Characteristics

Their ages ranged between 15 -24 years. Six five (79.9%) participants' ages ranged between 20-24years, nineteen (34.9%) ranged between 15-19 years. The mean age was 21.3years (SD=3.4). Sixty seven (79.8%) were married, fourteen (16.7%) were single, two (2.4%) were divorced while one (1.2%) was widowed. The majority of women thirty nine (46.4%) had only one child, twenty (28.6%) had two children, eighteen (21.4%) had three children and three (3.6%) had no children. Most of the women forty eight (57.1%) had attained secondary education, Twenty (23.8%) had attained primary level and sixteen (19.1%) reached tertiary level. The majority of participants eighty (95.2%) were Christians and four (4.8%) were not Christians. Demographic characteristics are summarised in Table 1 below.

Table 1: Sample Demographics

N=84

Variables		Frequency	Percentage
Age	Ages 15-19 years	19	34.9
	Ages 20-24 years	65	65.1
Marital status	Single	14	16.7
	Married	67	79.8
	Divorced	2	2.4
	Widowed	1	1.2
Number of children	None	3	3.6
	One	39	46.4
	Two	24	28.6
	Three	18	21.4
Level of education	Primary	20	23.8
	Secondary	48	57.1
	Tertiary	16	19.1
Religion	Christians	84	95.2
	Non-Christians	4	4.8

Knowledge on dual contraception

Eighty (95. 2%) had heard about contraceptives and four (4.8%) had never had about contraceptives. Sixty two (73.8%) of the participants had heard about dual contraception. On inquiry of what is dual contraception 45 (53. 6%) knew that condom alone was not a dual contraception and thirty nine (46.4%) thought it was a dual contraception. Consistent and correct use of a condom as a dual contraception was not known by fifty one (60. 7%) of the participants and only thirty three (39. 3%) knew that it was a dual contraception. The majority sixty one (72. 6%) of the participants knew that use of condom and any other method was a dual contraception method while twenty three (27.4%) did not know. Dual contraception as a protection against pregnancy was known by seventy eight (92. 9%) participants and six (7.1%) did not know. The majority seventy nine (94%) of the participants knew that dual contraception protects against STIs while five (6%) were not aware that it protects against STIs. Similarly seventy nine (94%) thought it protects against pregnancy, STIs and HIV and five (6%) did not know (Table 2).

Table 2: Knowledge levels on dual contraception

Variable		Frequency	Percentage
Have you ever heard about contraceptives	Yes	80	95.2
	No	4	4.8
The following are contraceptive methods			
Is abstinence a contraceptive method?			
	Yes	33	39.3
	No	51	60.7
Have you ever heard about dual contraception?			
	Yes	62	73.6
	No	22	26.4
Dual contraception			
Condom alone is not a dual contraception			
	Yes	45	53.6
	No	39	46.4
Condom used consistently and correctly is a dual contraception?			
	Yes	33	39.3
	No	51	60.7
Condom and another contraceptive method is a dual contraception?			
	Yes	79	94
	No	5	6

The total scores were graded into 3 categories; low, moderate and high knowledge (Table 3). A total score of 3-7 indicated poor knowledge levels on dual contraception, a score of 8-10 indicated moderate knowledge levels on dual contraception and a score of 11-14 indicated high knowledge on dual contraception. The mean score was 10.6 (SD=2.3).

Table 3: Categories of knowledge levels on dual contraception

Levels of knowledge	Range	Frequency	Percentage
Low	3-7	9	10.7
Moderate	8-10	26	31
High	11-14	49	58.3

Practice on dual contraception

Among study participants, 57 (67.9%) used one method, fourteen (16.7%) used nothing and 13 (15.4%) used dual contraception. Among 57 participants who were using one method, 24 (42.1%) used oral contraceptives, 15 (26.3%) had Jadelle®, 11 (19.3%) were on Depo Provera® and 7 (12.3%) were using the Intra-uterine contraceptive device (IUCD). Twenty-four had (26.8%) sometimes used dual contraception and 3 (35.5%) always used dual contraception.

Table 4 shows nature of dual contraception practices among the 13 participants who were using dual contraception. Five (38.5%) used condoms plus oral contraceptives.

Table 4: Practice on dual contraception (N=13)

Variables	Frequency	Percentage
<u>Types of dual contraception</u>		
Condoms and Pills	5	38.5
Condoms and Depo Provera	4	30.8
Condoms and Jadelle®	3	23.3
Condoms and IUCD	1	7.6

Association between knowledge and practice of dual contraception.

The Pearson's correlation coefficient indicating the relationship between knowledge and practice of dual contraception among women aged 15 to 24 years was ($r = 0.3$; $p < 0.02$). This reveals that there is a positive correlation between knowledge levels and practice of dual contraception among women aged 15 to 24 years at Morgenster mission hospital. Further regression analysis of the association was carried out since r was statistically significant. The coefficient of determination was $R^2 = 0.07$ ($p < 0.02$) implying that knowledge was attributable to 7% of the variance in use of dual contraception. The simple regression coefficient was 0.2 (SEB=1.0).

IV. Discussion

Sample Demographics

The research participants were women aged between 15 to 24 years with the mean age of 21.3 years. Most of them are sexually active and are in greater need of contraceptives and dual protection it offers. This is an at risk group, twice likely to die in child birth than their adult counterpart (Ramath, 2012). Because of age those that are married are less able to negotiate condom use and are more likely to use no method during sexual activities, thus increasing their risk.

The majority of the participants (57%) had attained secondary education and (19%) had attained tertiary education, which is in line with the country's literacy rate of 94%. This explains why most of the participants scored moderate (31%) and high (58.3%) on knowledge scales. It is of concern though that with high knowledge scores there was no corresponding high level of practice scores. This may mean that there are other factors other than knowledge that contribute to decision to practice dual contraception. Pack & Xiamong (2011) observed the same sentiments.

Most of the participants were Christians that is eighty (95.2%). Health workers can take advantage to empower these women on dual contraception through church gatherings.

Eighty (95.2%) knew about contraceptives and four (4.8%) had never heard about contraceptives. The majority had knowledge on contraceptives; those who were not knowledgeable fall under the 37% unmet need of contraceptives that still need to be reached with information. A study done by Chitereka & Nduna (2010) revealed that another segment of their research participants were not aware of any contraceptive method at all. These women who are not knowledgeable would not be able to use any of the contraceptives methods: This will expose them to unplanned pregnancies leading to unsafe abortions and contraction of STIs and HIV infection.

The study revealed a high knowledge on contraceptives. The most known methods were oral contraceptives (95%), Depo Provera® (91.7%), Jadelle® (85.7%), intrauterine device (85.7%) and abstinence (39.3%). In this study just over half (56%) participants knew condoms by the common brand name 'protector' and were not aware that it had protective as well as contraceptive properties. In contrast with studies, done in Nigeria showed higher percentages than this study (Pack, Xiamong, Stanton & Cottrell, 2011)

Responding to, condom alone is not a dual contraception, thirty nine (46.4%) thought that condom alone was a dual contraceptive method and forty five (53.6%) knew that condom alone was not a dual contraceptive method. This implies that these participants did not have enough information, which means more information should be given through health education.

Condom alone used correctly and consistently is a dual contraception, thirty three (39.3%) knew that condom alone used correctly and consistently was a dual contraception method and fifty one (60.7%) reported that condom alone used correctly and consistently was not a dual contraception. According to Maharaja (2014) and Zimbabwe Family Planning Council (2012) they all cited that condom alone when used correctly and consistently it's a dual contraception because of its twin protection against pregnancy and sexual infections. Condom plus any other contraceptive method as a dual contraception was known by sixty one (72.6%) and twenty three (27.7%) were not aware that it was a dual contraception method. Calvert, et al., (2012) cited that dual contraception is the simultaneous use of two methods that is a condom plus any other contraceptive method which can either be Depo Provera® (injectable), Intrauterine cervical device or contraceptives.

Seventy eight (92.9%) were aware that dual contraception protects against pregnancy and STIs. Although Tyler, et al., (2013) cited that dual method use may be a reflection of perceived risk or of motivation to prevent both unplanned pregnancies and STIs. This is not reflected in this study since there was low usage observed. If women perceive risk then they should be able to practice safe protection to prevent risk.

Practice on dual contraception

Use of hormonal methods alone was very common among these women, which only protects them against pregnancy but no protection against STIs and HIV infections. The study findings showed low use of dual contraception. This also concurred with a study done in Zimbabwe which reported low dual use of 38% (WHO, 2011).

Thirty eight (45.2%) participants had never used condoms and this was supported by a study done in Zimbabwe which cited that many women had problems in negotiating safer sex with their partners, due to power dynamic in relationship leading to low use of condoms. There are also myths and misconception about condoms, condom use is also associated with prostitution or disease prevention rather than contraception (Matsheza, 2010).

The majority had never used dual contraception, which was unexpected considering their high scores in knowledge. It appears that low usage of dual contraception is not a problem in Zimbabwe alone; A study done in United State of America revealed a low dual contraception use of 14% (Pack, Xiamong, Stanton and Cottrell, 2011).

Only 3 (3.6%) always used condoms plus any other contraception, twenty four (28.6%) reported that they sometimes used that method and fifty seven (67.9%) reported that they had never used that method. The study findings revealed low use and inconsistent use of dual contraception. This concurred with Lopez, et al., (2014) that inconsistency and incorrect use of dual contraception was common particularly among women aged 15 to 24 years. Correct and consistent use of dual contraception should be emphasized during family planning counselling sessions. Chakrapani, Shumungan & Newman (2011) insist that lower rate and inconsistent use of dual contraception could be explained by low emphasis on dual contraception during family planning counselling sessions and misconception about condoms.

Fifty eight (69%) had not used condoms on their last sexual intercourse and twenty six (31%) had used condoms on their last intercourse. Low usage reported could be due to negative attitude; Nyazema (2013) women say they are viewed as prostitutes when they are seen using condoms.

Relationship between Knowledge levels and Practice of dual contraception

Pearson product moment was used to examine the relationship between knowledge levels on practice of dual contraception. A positive correlation of ($r = .260^*$, $p < .017$). This means that as knowledge on dual contraception increase, practice of dual contraception should also increase.

Linear regression analysis showed that levels of knowledge on dual contraception had a positive effect on practice of dual contraception. The strength is indicated by R squared= .068, $F = 5.938$, $p < 0.017$, $b = .260^*$. This means that knowledge level on dual contraception accounts for 6.8% variance in the practice of dual contraception, as a prevention of unplanned pregnancy, sexual transmitted infections and HIV.

Limitations

Convenience sampling used could have resulted in selection bias. The sample consisted mostly of women from Morgenster mission hospital catchment area which largely rural. The results of the study, therefore, apply to rural women.

V. Conclusion

Nurses should emphasize on the use of dual contraception practice and consequences of unplanned pregnancy, abortions, STIs including HIV during family planning counselling sessions. Nurses should involve men during these family planning counselling sessions so that the counterpart will support the practice of dual contraception. Since only 6.8% change or variation in practice of dual contraception was explained by knowledge levels. Further research may be done to look for other reasons why women are not using dual protection to prevent themselves from unwanted pregnancy, sexually transmitted infection, HIV and AIDS.

Conflict Of Interest

The authors declare that there is no conflict of interest arising from this publication.

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