ORIGINAL RESEARCH ARTICLE

Dual Protection and Contraceptive Method Use among Women in Heterosexual Relationships in Mahikeng, South Africa

Godswill N. Osuafor[1] and Sonto M. Maputle[1]*

School of Health Sciences, University of Venda, Thohoyandou, Limpopo, South Africa[1]

***For Correspondence**: E-mail: *gosuafor@outlook.com;* Phone: +27825973207

Abstract

South African new reproductive health policies have given weight to dual protection as a public health intervention against unintended pregnancies and sexually transmitted infections. However, studies of dual protection have remained scanty and under researched in South Africa. This situation has left the reproductive health policy makers clueless about salient strategies to promote dual contraceptive method use. A survey of 568 women in steady relationships aged 15-49 was conducted in Mahikeng Municipality. Using multivariate logistic regression independent predictors of contraceptive method use were examined and presented as odds ratio and 95% confidence intervals. Sixteen percent of the women were currently protecting against both unintended pregnancies and infectious diseases while 40% were protecting against unintended pregnancies only. Age, occupation, ever discussed condom use with partner; home language and religion were the independent predictors of dual method use. Non-barrier method use was associated with age, home language, religion, and duration of union. The study concludes that educative and enlightening programs that emphasize women's employment and communication about condom use may be specifically helpful in promoting dual method use. *(Afr J Reprod Health 2017; 21[1]:64-72).*

Keywords: Dual protection, contraception, women, Mafikeng, condom, non-barrier method, sexually transmitted infections

Résumé

Les nouvelles politiques de santé de la reproduction en Afrique du Sud ont porté l'accent sur la double protection en tant qu'intervention de santé publique contre les grossesses non désirées et les infections sexuellement transmissibles. Toutefois, les études sur la double protection sont restées insuffisantes et ont fait l'objet de recherches en Afrique du Sud. Cette situation a laissé les décideurs en matière de santé reproductive ignorants de la stratégie saillante pour promouvoir l'utilisation de la double méthode contraceptive. Une enquête auprès de 568 femmes dans des relations régulières, âgées de 15 à 49 ans, a été menée dans la municipalité de Mahikeng. À l'aide de la régression logistique multivariée, des indices indépendants de l'utilisation de méthodes contraceptives ont été examinés et présentés comme rapport de cote et 95% d'intervalle de confiance. Seize pour cent des femmes protégeaient actuellement contre les grossesses non désirées et les maladies infectieuses, tandis que 40% protégeaient contre les grossesses non désirées. L'âge, l'occupation, si l'on a jamais discuté l'utilisation du préservatif avec un partenaire; langue parlée dans le foyer et la religion, étaient les indices indépendants de l'utilisation de deux méthodes. L'utilisation de la méthode non-barrière était associée à l'âge, à la langue parlée au foyer, à la religion et à la durée de l'union. L'étude conclut que les programmes éducatifs et éclairés qui mettent l'accent sur l'emploi et la communication des femmes sur l'utilisation du préservatif peuvent être particulièrement utiles pour promouvoir l'utilisation de deux méthodes. *(Afr J Reprod Health 2017; 21[1]: 64-72).*

Mots-clés: Double protection, Contraception, Femmes, Mafikeng, Condom, Méthode sans barrière, Infections sexuellement transmissibles.

Introduction

Unintended pregnancies have remained a challenge to both developing and developed countries because of negative attitudes towards contraception[1-3]. Of the 85 million unplanned pregnancies, 47% and 39% occurred in more developed and less developed regions respectively in 2012[4]. Of a particular importance, 55% of unplanned pregnancies occurred in southern Africa and this figure is higher than the 35% unplanned pregnancies reported in Africa in 2012[4]. Furthermore, Southern Africa has the highest prevalence of sexually transmitted infections including HIV/AIDS in Africa[5], which underscores the relevance of dual protection measures in the region. Dual protection is defined as any intervention process that interrupts the occurrence of unintended pregnancies and STIs.

South Africa has been experiencing unexpectedly high prevalence of contraceptive use since the apartheid dispensation. Modern contraceptive prevalence was estimated at 60% for the country in 2013[6]. Despite the high prevalence of contraceptive use in the country, it is confronted with an equally high level of unintended pregnancies. Studies indicated that about 53% of pregnancies

between 1990 and 2001 in the country were unplanned[7], while about 55% to 75% of last pregnancies were reported as either mistimed or unwanted in 2005[8-9]. The occurrence of unintended pregnancies leading to abortion is an indication that women are either using ineffective contraceptive methods or that they lack access to family planning services. This is quite unexpected in a country where contraceptive services are virtually free and therefore raises the question as to which factors influence modern contraceptive usage.

While unintended pregnancies plague South Africa, it is further confounded by the growing epidemics of HIV/AIDS and a spectrum of other sexually transmitted infections (STIs). A cross-sectional survey of 929 sexually active women within reproductive age was conducted in 89 public primary care facilities across Gauteng, Kwazulu-Natal and the Western Cape[10]. The survey revealed that 57% of the women reported at least one unplanned pregnancy, while 45% perceived that they were at risk of HIV or other STIs infections. In fact, HIV infections escalated from 1% in 1990 to 30% in 2005 among women attending antenatal clinics[11]. Studies have documented growing rates of HIV and STIs among antenatal attendees in the country[12-13]. In a recent study, self-reported tendency to engage in unsafe sex was reported by 42% of married or cohabiting women in South Africa[14]. Similarly, studies in Southern and Eastern Africa[15-17] documented evidences of risky sexual behaviour among married couples. These studies reiterate the pertinence for the use of dual protection. It is against this backdrop of the irony of the availability of modern contraception, its usage, increased unintended pregnancies and sexually transmitted infections in South Africa that researchers and reproductive health policy makers have alike in recent years, been concerned about promoting dual protection. It is against this ironic backdrop of the availability of modern contraception, its usage, and the contradictory increase of unintended pregnancies and sexually transmitted infections in South Africa that researchers and reproductive health policy makers alike have in recent years, become more concerned about promoting dual protection and contraception methods.

Despite the approval and promotion of dual protective contraception method use in the South African reproductive health policy, studies regarding the use of dual protection methods are very limited in the country. A study on dual protection and contraception method use conducted among 554 individuals across 12 primary health care facilities in South Africa, indicated that 16% of the sexually active participants had used condoms and other forms of contraception in their last sexual encounters[18]. Women were less comfortable to use condoms as a contraceptive method despite the knowledge that condoms prevent unwanted pregnancies and STIs. The study further revealed that the final decision on whether to use condom as STI prophylaxis was usually the sole discretion of men. Moreover, the study findings suggested that the use of dual protection method only occurs when a man desires to protect himself against HIV or STIs coincides with his female's partner desire to prevent pregnancy. The authors concluded that the use of condoms was male controlled while the use of non-barrier contraceptive methods were female controlled.

In their study of the use of dual protection against STIs and pregnancies in South Africa[19], Morroni *et al* found that between 8% and 5% of the sexually active women in their sample used dual methods and condoms alone respectively. They concluded that higher education, being unmarried and a history of multiple sex partners were factors associated with the use of dual protection and contraception methods. On the other hand, factors such as young age, higher education, being a student and the awareness of the dual protective nature of condoms were associated with the sole use of condoms. Based on the above review of the limited available research on the use of dual protection and contraception methods, one shortfall is that they targeted antenatal attendees in the primary care facilities which were limited in population variability.

Studies have attributed unintended pregnancies and the vulnerability of women to STIs to women's lack of control over their sexuality[20-22]. Earlier studies on the use of contraception in South Africa have presented conflicting reports implicating the husbands' or partners' disapproval of family planning and their unwillingness to use condoms as significant in the midst of other factors mediating non-use of birth control by the women[23-25]. Nonetheless, there is evidence that majority of Black men and women believe that the decision regarding the use of contraception is women's responsibility[18,26]. However, the extent to which women's decision prevails on practicing dual protection is not clear. Unplanned pregnancies coupled with sexually transmitted infections constitute a plethora of negative health, economic, social, and psychological outcomes for women and

children. The pervasiveness of unintended pregnancies and STIs in spite of the free provision of family planning services and condoms calls for an in-depth understanding of the factors that influence dual protection and contraceptive usage among women and the relevance of devising practical strategies for the promotion of women's reproductive and sexual health.

Methods

The data used for this study was obtained from a cross-sectional survey conducted between May and July, 2012 in Mahikeng Municipality, North-West province of South Africa. The Mahikeng Municipality is divided into 150 urban and 233 rural enumeration areas based on the 2011 census[27]. A cluster sampling method was used with the enumeration areas as the primary sampling unit. The clusters from both the rural and urban areas were sampled with probability proportional to size. A total of 800 households were randomly selected from the designated clusters which yielded 600 eligible respondents between the reproductive ages of 15-49 years old. In each household only the women in steady relationships for at least one year prior to the survey were interviewed. In instances where there were more than one eligible respondent, one was selected randomly. The interview was carried out on a face-to-face basis by the research assistants using a structured questionnaire in each respondent's preferred language. A total of 568 women aged between 15-49 years old who met the duration criterion were included in the analysis.

The women were grouped according to their current use of contraceptive methods. Women who were currently using condoms and other non- barrier methods were assigned (1), those using only condoms were designated (2); while those using solely non-barrier contraception method such as hormonal contraceptives, sterilization, IUD, and the diaphragm were coded (3) and no method use was coded (4). Analyses of the data were performed at three levels. The first level was descriptive analysis which involved looking at the distribution of the variables one at a time using statistics such as frequencies. Secondly, bivariate analysis such as cross tabulations to identify factors associated with method use was performed using chi-square test of independence. Finally, separate binary logistic regression models were run to establish the odds ratio each of the contraceptive method use groups (for example condom plus non-barrier method, and non-barrier alone) versus no method use. At the multivariate level, the proportion of women using condom plus non-barrier method and condom alone was too minute to be examined analytically. Therefore, they were merged as dual method use since they provide dual protection against unintended pregnancies and sexually transmitted infections.

Results

Profile of respondents

The mean age of the women was 34 years and over three-quarter (78.3%) were residing in the rural areas. The mean age at commencement of the relationships was 26 years and Setswana was the home language of about two-third (66.2%) of the women. Majority (92.6%) of the women was Christians and about 57% of the relationships were solemnized in civil or religious rites. About half (51.2%) had primary or no education and over a quarter (29.8%) were unemployed. Approximately two-third (65.8%) of the relationships has lasted for 9 years or less and about half (51.1%) of the women had one or two children. Seventeen percent (16.7%) indicated that they were cohabiting. (Results are not shown).

Table 1 presents the demographic and reproductive health characteristics by current method use. About 16.2% of the women were protected from both pregnancy and STIs, with 8.5 % using condom and non-barrier methods and 7.7% using condoms alone. Forty percent (40.3%) were protected from pregnancy through non-barrier contraception whereas 43.5% did not use any method. At the bivariate level, age, home language, age at marriage, religion, occupation and number of living children were associated with method use. Other factors significantly related to method use were ever discussion condom use with partner and partner's acceptance to use condom. Dual protection was highest among people aged 15-24 with condom plus non-barrier method (20.6%) or condom alone (23.8%). Lowest dual protection by condom plus non-barrier method (2.4%) was reported by women in other religions; and by condom alone (1.6%) among women whose partner's disapproved of condom use. However place of residence, type of union and education was not related to method use.

Knowledge and attitude to contraceptive method use

Table 2 shows the percentage distributions of women by knowledge, current use by method type, reasons

for non-use of contraception and dual method. It revealed that of all the women, over three-quarters had knowledge of pills, injections and condoms as contraceptive methods. The most popular method

Table 1: Distribution of Current Method Use among Women by Selected Demographic and Reproductive Characteristics.

Characteristics		Method use				
		Condom plus non-barrier	Condom only	Non-barrier only	No method	P- value
Total (N)	**568**	**48**	**44**	**229**	**247**	
Age-group						0.000
15-24	63	20.6	23.8	31.7	23.8	
25-29	108	13.0	9.3	37.0	40.7	
30-34	114	8.8	9.6	38.6	43.0	
35-39	120	4.2	2.5	49.2	44.2	
40-44	89	2.2	3.4	46.1	48.3	
45-49	74	5.4	2.7	33.8	58.1	
Home language						0.021
Setswana	376	9.3	10.1	42.6	38	
Afrikaans	21	9.5	0.0	38.1	52.4	
IsiXhosa	50	4.0	6.0	42.0	48.0	
Sesotho	74	9.5	2.7	36.5	51.4	
IsiZulu	47	4.3	2.1	27.7	66.0	
Residence						0.665
Rural	445	8.1	7.9	39.3	44.7	
Urban	123	9.8	7.3	43.9	39	
Type of union						0.054
Married	473	8.0	6.6	40.6	44.8	
Cohabiting	95	10.5	13.7	38.9	36.8	
Age at Marriage						0.003
< 20	83	9.6	10.8	38.6	41.0	
20-24	152	13.2	8.6	48.7	29.6	
25-29	197	7.1	8.1	35.5	49.2	
30+	136	4.4	4.4	39.0	52.2	
Duration of union						0.000
1-4	229	14.4	13.1	31.4	41.0	
5-9	145	6.9	6.9	46.2	40.0	
10+-	194	2.6	2.1	46.4	49.0	
Religion						0.006
SDA	95	5.3	8.4	38.9	47.4	
Methodist	146	11.0	5.5	34.2	49.3	
Roman Catholic church	72	11.1	4.2	52.8	31.9	
Pentecostal	213	8.5	10.8	43.7	37.1	
Other religion*	42	2.4	4.8	26.2	66.7	
Education						0.171
None or Primary	291	7.6	7.6	39.2	45.7	
Secondary	156	10.9	10.3	44.2	34.6	
Tertiary	121	7.4	5.0	38.0	49.6	
Occupational status						0.023
Unemployed	169	4.7	4.1	43.2	47.9	
Employed	399	10.0	9.3	39.1	41.6	
Number of living children						0.000
None	77	14.3	20.8	28.6	36.4	
1-2	290	10.0	7.6	44.5	37.9	
3+	201	4.0	3.0	38.8	54.2	
Ever Discussed condom use						0.000
No	239	3.3	1.7	41.0	54.0	
Yes	329	12.2	12.2	39.8	35.9	
Partner accepts condom						0.000
No	186	4.8	1.6	46.2	47.3	
Yes	382	10.2	10.7	37.4	41.6	

*****Other religions includes traditionalist and other religious affiliations whose samples were too small to stand alone in the analysis.

Table 2: Percentage Distributions of Women by Knowledge, Current use by Method Type, Reasons for Non-Use of Contraception and Dual Method

Methods	Knowledge	Current use
Pill	95.2	28.3
IUD	46.3	4.8
Injection	91.9	38.0
Diaphragm	6.3	1.2
Condom	84.0	27.7
Female sterilisation	70.7	11.1
Periodic abstinence	24.2	1.8
Withdrawal	2.9	3.3
Washout	2.9	-
Total (N)	2364*	386*
Reason for current non-use of contraceptive method		
Not accessible	29.5	-
Respondent opposed	11.6	-
Husband/partner opposed	11.2	-
Fear of side effects	19.5	-
Religious prohibition	11.6	-
Do not know any method	0.8	-
Want to get pregnant	36.1	-
Breastfeeding	0.4	-
Others	5.0	-
Total	*303	-
Reason for current non-use of dual method		-
Husband/partner opposed	44.2	-
Respondent opposed	37.5	-
Not accessible	4.0	-
Sterile	15.2	-
We trust each other	60.0	-
Am afraid of my partner	4.2	-
Total	*661	-

*****Respondents had multiple responses

types the women were using at the time of the survey were injections, pills and condoms. A number of reasons were given for the current non-use of modern contraception. Over a third (36.1%) of the women reported desire to conceive and inaccessibility (29.5%) as the main reasons for not using contraception. The fear of the side effects, religious prohibitions, and opposition from both the husbands or partners and the respondents were cited as some of the barriers to current use of contraception. However, the trusting of husbands/partners, rejection of condom use by the husbands and the respondents were the main hindrances to dual method use.

Predictors of methods use

Table 3 presents the binary logistic regression analysis of dual method use and non-barrier contraception use alone. Age, occupation, ever discussed condom use with partner, home language and religion were the independent predictors of dual method use. Women within the age groups 25-49 were less likely to report dual method use compared to the age group 15-24. Employed women were 3 times more likely to report dual method use compared to those who were unemployed. Those who have never discussed condom use with their partners had lower likelihood in reporting dual method use than women who discussed condom use. When compared to the Setswana speaking respondents, speakers of IsiXhosa or IsiZulu showed lower likelihood of using dual protection and contraceptive method. Similarly, respondents who professed to Pentecostalism indicated a higher dual method use than those who were members of the Seventh Day Adventist Church.

As far as the sole use of the non-barrier method is concerned, age, home language, religion, and duration of union emerged as the explanatory predictors. Women within the age groups of 40-44 and 45-49 were less likely to report non-barrier method use compared to the age group 15-24. Women who speak IsiZulu as their home language showed lower likelihood of using non-barrier contraception compared to the Setswana speaking women. Roman Catholicism reported twice the likelihood of using non-barrier methods than the Seventh Day Adventists. Women who have been in unions with their partners for 1-4 years showed a lower tendency of reporting non-barrier method use alone compared to the union duration of 5-9 years.

Discussion

There is increasing empirical evidence of concomitant occurrence of unplanned pregnancy and sexually transmitted infections among women in heterosexual relationships. The aim of the present study was to examine the pattern of method use among women in steady relationships. The study revealed that small proportion of women were currently protected against unintended pregnancy and sexually transmitted infection which is consistent with earlier reports in South Africa, Kenya and United States[10,28,29,30]. Higher proportion of non-barrier contraceptive use relative to the overall dual method use suggests that women were more concerned about preventing unplanned pregnancies than sexually transmitted infections. This is an issue of concern given that dual method use is the thrust of South Africa's new reproductive health policy since

2001; and as such it ought to have reached a marginal level.

Table 3: The Parsimonious Logistic Regression Model for Factors Related to, Condom Plus Non-Barrier Use and Non-Barrier Method Use.

Sociodemographic characteristics	Condom plus non-barrier		Non-barrier only	
	Odds Ratios	95% CI	Odds Ratios	95% CI
Age-group				
15-24	1.000		1.000	
25-29	**0.259****	0.095 - 0.701	0.538	0.229 - 1.263
30-34	**0.138****	0.049 - 0.390	0.465	0.196 - 1.101
35-39	**0.035****	0.011 - 0.114	0.437	0.175 - 1.089
40-44	**0.028****	0.007 - 0.106	**0.324***	0.122 - 0.865
45-49	**0.067****	0.018 - 0.245	**0.178****	0.062 - 0.517
Occupational status				
Unemployed	1.000			
Employed	**3.477****	1.602 - 7.544	-	-
Ever discussed condom use				
Yes	1.000			
No	**0.107 ****	0.048 - 0.237	-	-
Home language				
Setswana	1.000		1.000	
Afrikaans	0.624	0.108 - 3.606	0.819	0.304 - 2.203
IsiXhosa	**0.171***	0.042 - 0.704	0.655	0.339 - 1.266
Sesotho	0.501	0.189 - 1.330	0.604	0.343 - 1.064
IsiZulu	**0.225***	0.051 - 0.990	**0.418 ***	0.203 - 0.861
Religion				
SDA	1.000		1.000	
Methodist	1.013	0.386 - 2.658	0.867	0.483 - 1.556
Roman Catholic church	1.856	0.548 - 6.290	**2.098***	1.041 - 4.227
Pentecostal	**2.561***	1.009 - 6.501	1.566	0.904 - 2.713
Other religion	0.379	0.076 - 1.878	0.530	0.223 - 1.259
Duration of union				
1-4	-	-	**0.495***	0.288 - 0.852
5-9		-	1.000	
10+	-	-	1.167	0.676 - 2.015

* Significant at 0.05 level; ** significant at 0.01 level; 1.000 reference category.

high level of practicing dual protection and contraceptive use among women aged 15-24 in a national survey[8] as well as a population-based survey[31]. This is a reflection of more emphasis on promoting dual method use and contraceptive use among young adults in the country. The consistent lower reporting of dual protection usage from ages 25 to 49 may reflect the attribute of stable monogamous relationships where there is trust. Thus suggesting less concern about pregnancies and contracting of STIs. On the other hand, lower odds of non-barrier method use among women aged 40-49 may indicate the attainment of individuals' reproductive goals. This implies that these women were at high risks of unintended pregnancies and sexually transmitted infections. It would appear that older women may be contributing to the wave of unintended pregnancies and sexually transmitted infections in addition to negative child health outcomes due to age.

The result further agrees with the findings on The findings that women who were employed and have ever discussed condom use with their partners were practicing dual method use are consistent with other reports in South Africa[8,32]. Good socioeconomic status may have contributed to the practicing of dual protection by affecting the ability to use condoms or in conjunction with non-barrier methods of choice. In this regard, the women's poor socioeconomic status poses a challenge to the affordability of their method of choice and consequently has a negative influence on their reproductive behaviour. Similarly discussions about condom use availed women the practice of dual protection. These findings suggest encouraging discussions about condoms can overturn apportioning decisions to condom use to men and non-barrier methods to women respectively. Discussions on condom use should be an integral part in intervention programs designed for women who lacked courage to discuss condom use with their partners.

Being IsiXhosa or IsiZulu speaking women were associated with lower odds of dual method use. Furthermore, IsiZulu speaking women had lower odds of non-barrier methods. These patterns suggest cultural influences may be contributing to women's vulnerability to unplanned pregnancies and sexuality transmitted infections by limiting women's method use choices. On the other hand, women who follow Pentecostalism showed higher tendency to practice dual method use while Roman Catholic women were more likely to use non-barrier methods. This pattern can be attributed to differences in religious doctrine. While Pentecostal church is open to innovations as a result of impact of unintended pregnancy and sexually transmitted infection, Roman Catholic Church has been fervent in criticizing condom use, abortion and a little flexible to non-barrier methods. Hence Roman Catholic women may be at a higher risk of sexually transmitted infections. The lower tendency among women who have been in relationships for less than five years to use non-barrier methods not unexpected because the short duration of the union may have coincided with their desired time for childbearing.

The disapproval of condom use or non-barrier methods of contraception observed in this study resonates with previously reported opposition to and dislike for condom[33,34]. It appears that women who failed to convince their male partners to use condoms consciously or inadvertently resort to other non-barrier methods as panacea. In addition, about 89% of women who reported that their husbands/partners disapproved of family planning were practicing covert contraceptive use, an observation that is consistent with a study in South Africa[35]. Previous studies in South Africa have documented that women resort to emergency contraception and abortion to avert unintended pregnancies[34,36,37]. Given that family planning is free in South Africa, women can bypass their partners' opposition by opting to use more secretive contraceptive methods. However this is a concern because of higher failure rates of some methods.

Surprisingly, the present study is in sharp contrast with other studies that reported that education plays a significant role in contraceptive method use[18,19] but in consonance with a recent study in South Africa[38]. The discrepancies may be attributed to the fact that previous studies were facility based, whereas the present study was population based. Furthermore, the general view that decision on family planning is women's responsibility may have diffused the differentials by social class.

The findings from this study are thought provoking, but there are limitations that must be noted. The cross-sectional design of the study hampers causal connections between our independent and dependent variables. Secondly, information obtained in the study was self-reported, and may be subject to bias due to memory loss. Nevertheless, the design of the present study is devoid of sensitive issues that would warrant illusive responses. Survey studies on the use of contraceptive methods have produced credible and consistent findings with measures of patterns of usage such as the ones used in this study.

Conclusion

The findings of the study show that to some extent, the characteristics of dual method users, and non-barrier method users reflect differentials. These observations suggest that attitudes and patterns of contraceptive method use vary according to the knowledge of the respondents regarding contraception methods and their personal, cultural, and religious backgrounds. Therefore, it is imperative to consider these variations in designing programs to promote effective dual protection method use. The consistent findings regarding partners' discussing condom use and the factor of occupation underscore the pertinence of spousal communication on the use of contraception and the need for female economic empowerment. Irrespective of the fact that family planning is virtually free in South Africa, social norms, inaccessibility and the fear of the possible adverse effects of contraceptives present limitations to individual choice of method use. Considering the high prevalence of unplanned pregnancies, sexually transmitted infections and risky sexual behavior in the South African context, there is an urgent need to emphasize and promote the use of dual protection and contraception methods as part of public reproductive health and sexual education.

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Contribution of Authors

GN conceptualized, designed, collected data, analyzed and interpreted the result. GN approved the submission of the manuscript. SM was involved in analyses, interpretation of the findings and critical revision of the final draft of manuscript. SM approved the submission of the manuscript.

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