

Is Marital Status a Strategic Parameter in Implementing HIV/AIDS Campaigns in Kinshasa, Democratic Republic of Congo?

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Abstract: Several researches across the African continent highlight the important role of “marital status” in the magnitude of the HIV/AIDS epidemic because of early marriage for women and peers’ influence to engage in extramarital sex for men. Thus, the present study investigated the existence of significant differences in marital groups regarding their level of HIV/AIDS awareness, attitude towards infected persons, exposure to HIV/AIDS information, accessibility to condoms and sexual behaviour. The results emanating from the statistical analyses of the data collected through a cross-sectional survey revealed that “marital status” is the key to the design and implementation of HIV/AIDS interventions in Kinshasa.

Keywords: *HIV/AIDS Level of knowledge, marital status, Kinshasa, sexual behaviour, and condom use*

1. Introduction and Literature Review

Research projects in the field of human immuno-deficiency virus (HIV)/acquired immuno-deficiency syndrome (AIDS) have suggested education as an appropriate response for decreasing the prevalence of the epidemic in the most afflicted regions (Ayikwa, 2013). This implies equipping communities and the individuals therein with adequate HIV/AIDS knowledge, in order to reduce the misconceptions about the disease, negative attitudes that lead to discrimination and the stigmatisation of infected persons, as well as risky sexual behaviours that encourage the propagation of the virus (Gao et al., 2012). Similarities and disparities between members within communities render it difficult to address all the sub-groups at once, and through the same intervention programme. Thus, tailoring campaigns that address HIV/AIDS is crucial, in order to effect behavioural change; and numerous factors or elements need to be considered during implementation, in addition to the design of interventions, such as age, gender, poverty (socio-economic status), occupation (profession) and level of education (Lafreniere, Deshpande, Hunter, & Bjornlund, 2013). Similarly, several researches in the field of social marketing addressing the HIV/AIDS issue assert that the magnitude of the epidemic is also associated with “marital status” (Siziya, Muula, & Rudatsikira, 2008; Asante, 2013). Indeed, the absence of dialogue on safe sexual behaviour among married couples enhances the risk of acquisition of HIV/AIDS (Marlowa, Tolley, Kohlic, & Mehendale, 2010). A substantial proportion of new HIV/AIDS infections in sub-Saharan Africa occur in cohabiting couples (Guthrie, de Bruyn, & Farquhar, 2007).

Studies from Rwanda and Zambia have revealed that people in stable partnerships constitute 55–93% of new heterosexually acquired HIV/AIDS infections (Dunkle, et al., 2008). In 2008, 43% of new HIV/AIDS infections among adults aged 15 to 49 years in Uganda occurred within monogamous relationships (Wabwire-Mangen, Odiit, Kirungi, Kisitu, & Wanyama, 2009). Inappropriate sexual behaviour and the lifestyle of unmarried people living with HIV/AIDS have been pointed out as factors that are enhancing the spread of the virus (Abasiubong, Udoh, Idung, & Umoiyoho, 2012). Clearly, from the preceding discussion, one may conclude that people who take actions to prevent HIV/AIDS infection are those who are aware of their risk of getting infected; and they perceive themselves as being at risk of contracting the virus. It is thus crucial to address the biased confidence that characterises the marital status, as researches worldwide report risky sexual practices and inadequate HIV/AIDS knowledge of married women in particular. Marital status is one of the acknowledged determinants of sexual behaviour among many other socio-demographic factors that relate to the magnitude of the epidemic. Consequently, it is imperative to consider the marital status in analysing the current HIV/AIDS situation, in an effort to implement adequate prevention campaigns aimed at slowing down the spread of the virus. However, is “marital status” strategic to the context of Kinshasa, as in other cities or provinces around the African continent that have found this to be so?

Statistical Background of Marital Status: Moralists in the terrain of HIV/AIDS emphasise on carrier’s role of individual behaviour regarding the epidemic (Mabala, 2006). However, prevention methodologies for fighting the virus necessitate consideration of the key role played by both physical and social environments in

the propagation of the HIV virus - "The microbe is nothing; the terrain [is] everything" (Louis Pasteur, cited by (Mabala, 2006)). Marital status has proven to be a crucial environmental and structural factor influencing individuals' sexual behaviours, amongst other factors, such as gender, age, religion, socio-economic status, area of residence, occupation, education, etc. (Slaymaker, Walker, Zaba, & Collumbien, 2004). A research conducted in Ghana showed a significant difference in HIV/AIDS knowledge, based on one's marital status [$F(3, 321) = 4.86, p = 0.008$] in the sample (Asante, 2013). Participants who had never married (single) were more likely to have taken an HIV test than the married ones (Asante, 2013). These results seem to demonstrate how seriously the HIV/AIDS issue is taken by single people, compared with those who are married; and why adequate knowledge of HIV/AIDS is negatively associated with being married (Siziya, et al. 2008). Indeed, women who have spent a long time in marriage constitute a more vulnerable group to sexually transmitted diseases (STDs), unplanned pregnancies and HIV/AIDS infections (Mondal, Rahman, Obaidur Rahman, & Akter, 2012). The statistical tools, chi square and binary logistic regression analysis performed to analyse the data collected on 10,996 long-time married women in their reproductive span taken from Bangladesh Demographic and Health Survey (BDHS- 2007) identified husband's education, husband's occupation, age at marriage and marital status among the variables that have a statistically significant effect on HIV/AIDS awareness at $p < 0.01$ (Mondal et al., 2012).

Therefore, preventing long-time married women from the epidemic necessitates an emphasis on the level of influence played by the husbands' social group. This is necessary; because husbands frequently tend to propagate commonly widespread sexual practices within their peer group, including extramarital sexual relationships, especially when these groups comprise dense networks (Coma, 2013). On the other hand, the struggle against adolescent marriage as a factor enhancing the spread of the epidemic in Africa has revealed that more than 80% of young women that engage in unprotected sex are married, more often too much older husbands (mean age difference, 5–14 years); and this presents a high probability of infection (Clark, Bruce, & Dude, 2006). By contrast, a study investigating the association between marital status groups and death from HIV/AIDS conducted by a sociologist, Kposowa (2013), demonstrated that individuals that are either divorced or separated have a tendency to die of HIV/AIDS 4.3 times higher than the married. Likewise, single or never-married individuals were predestined to die a HIV/AIDS-related death 13 times more than their married counterparts (Kposowa, 2013). However, when considering the gender factor in stratifying the sample, the observation made indicated that marital status was associated only with HIV/AIDS mortality among men (Kposowa, 2013). Therefore, the risk factor for mortality from HIV/AIDS involving marital status is not necessarily valid for women. Another study conducted in South Africa concluded that there was a complex relationship between marital status and the risk of HIV/AIDS acquisition.

Indeed, a logistical regression model, including the diagnosis of a sexually transmitted infection (STI) and socio-demographic characteristics, such as age, sex, socio-economic status, race and type of locality demonstrated no statistically significant difference between married and unmarried people, despite the fact that the risk of HIV/AIDS acquisition for unmarried people was higher when compared to that of married people, when only sexual behaviour factors were controlled in the model (Shisana, et al., 2004). The Democratic Republic of Congo (DRC) was one of the pioneering African countries to register the first-ever case of HIV in 1983 (Khonde, 2006). After over three decades of prevention campaigns, HIV/AIDS estimates remain alarmingly high. In 2005, it was found that there were over 1 million people living with the virus countrywide; while only very few HIV-infected people (8.6%) had received antiretroviral treatment. The adult prevalence rate was estimated at 3.2%; while Kinshasa itself recorded an alarming 22.2% prevalence rate in most of the at-risk populations (USAID, 2008). These numbers give a realistic picture of how the epidemic is one of the worst plagues leading to the loss of human life in the DRC, particularly in Kinshasa. This reality stresses the country's need to implement prevention campaigns that can significantly slow down the spread of the virus and save people from HIV/AIDS-related deaths. Successful social marketing campaigns have to target specific groups, in order to draw a conclusion. From the literature above, it emerges that investigating people's level of knowledge of HIV/AIDS is relevant, especially their attitude towards HIV/AIDS, accessibility to HIV/AIDS information, availability of condoms and sexual behaviour, considering the determinant marital status in the context of Kinshasa.

Marital status, as considered by the present study, comprises single, married (people living together), the unmarried (people living as a couple) and the divorced/widowed. Indeed, it is not uncommon to focus on that

specific socio-demographic group, as demonstrated in numerous relevant studies drawn from the literature conducted worldwide. In addition to that already mentioned above, a study conducted in the United Arab Emirates highlights a significant alarming difference between single and married individuals in the context of the discriminative attitude towards people living with HIV/AIDS (mean= -0.20; $p= 0.003$). The results show that married people are less likely to stigmatise infected persons than their single counterparts; although in general, both groups behave in a discriminative way (See Table 1). Far from the Middle East, but closer to the present study's research ground, a call for skills-based education, specially designed for people in stable relationships, was made in Botswana – amid the tougher challenges experienced by individuals who are cohabiting and those in marriages, than their never-married, separated, divorced and widowed counterparts in persuading their partners to use condoms and their ability to refuse sex (Setume, 2016).

Hence, the necessity for culturally sensitive programmes that would empower these people. Furthermore, a study comparing the DRC and Nigeria on the level of HIV/AIDS knowledge and the acceptance attitude towards people living with HIV/AIDS, demonstrated that both the knowledge of HIV/AIDS (28.4% vs. 33.6%, respectively) and the acceptance attitude towards persons living with HIV/AIDS (PLWHA) (3.2% vs. 9.8%, respectively) were low in young women from rural areas of both countries. The results show that marital status is associated with HIV/AIDS knowledge ($r= 7.635$ vs. 52.460 , respectively; $p<0.05$) with a much stronger relationship in Nigeria than in the DRC (See Table 2). Another comparison made by Kuete et al. (2016) between sexually active Chinese and foreign students demonstrated statistically significant differences between both groups with regard to their marital status ($p<0.001$).

Table 1: HIV/AIDS Knowledge and Stigma Score by Marital Groups

Type of score		Single (n = 2058)	Married (n = 213)	Single Vs Married (95% CI)	p-value
Knowledge	Mean	4.3	4.1	0.16 (-0.06 to 0.38)	0.160
	% of Correct answers	61.4%	58.6%	2.8%	
Stigma	Mean	1.5	1.7	-0.20 (-0.34 to -0.07)	0.003
	% of Correct answers	25.0%	28.3%	-3.3%	

Source: (Haroun et al., 2016)

However, despite the various significance emphasised above, more contextual and specific investigation remains relevant; as marital status was also found to be non-significant in some cases, or when considering the different aspects of the HIV/AIDS issue than those pointed out earlier.

Table 2: the association of socio-demographic characteristics of the respondents by HIV/aids knowledge and acceptance attitude towards PLWHA of the two countries.

	HIV/AIDS Knowledge		Nigeria	
	DRC			
Marital Status	Yes (%)	χ^2	Yes (%)	χ^2
Never in Union	29.7		36	
Cohabiting	26.8	7.635*	30.3	52.460*
Married	28.4		37.7	

*P-value<0.05

Source: (Gebremedhin, Youjie, & Tesfamariam, 2017)

In South America, for example, more precisely in Sucre-Bolivia, a study found no need to implement HIV/AIDS policies with special attention to the population's marital status; since the differences in the prevalence of unsafe sex practices, though unfair by gender and age groups, were not statistically significant with regard to marital groups (see Table 3). Similarly, in the study conducted in the United Arab Emirates, no statistically significant difference was found between marital groups in knowledge of transmission and treatment of HIV/AIDS, except for the fact that HIV cannot be transmitted by touching HIV-infected persons.

Likewise, in the study comparing young women of the DRC and their Nigerian counterparts, the acceptance attitude towards PLWHA was not associated with marital status; although that was the case with other socio-demographic groups. Therefore, the present study is pertinent; as it will give a realistic figure on the current situation in Kinshasa with regard to the struggle against HIV/AIDS. It is also important to highlight the fact that the respondents in the present study represented both genders; and they are living in urban areas in contrast to the study comparing the DRC with Nigeria that focuses only on young women living mostly in the rural areas.

Table 3: Prevalence of unsafe sex practices and adjusted OR estimated by multivariate logistic regression in the urban settings.

Marital status	Prevalence n (%)114 (10.7)	Adjusted (95% CI)	p-value ^a
Married	19 (5.2)	1.0	
Divorced-widowed	3 (9.1)	2.3 (0.6–8.2)	0.221
Single	75 (13.4)	1.30 (0.7–2.4)	0.457
Common-law (stable) union	17 (15.0)	2.9 (1.4–6.1)	0.004

^a χ^2 test.

Source: (Calderón et al., 2015)

The present study investigates, with regard to what has been mentioned previously, the differences between the marital groups in HIV/AIDS knowledge, attitude towards HIV-infected persons, exposure to HIV/AIDS information, propensity to access condoms and sexual behaviour, in order to pick out the existence, or none, of disparities. Thus, marital group(s) more at risk of spreading the epidemic can be identified. If these groups show disparities in HIV/AIDS knowledge, attitudes towards HIV-infected persons, exposure to information related to the epidemic, propensity to access condoms and sexual behaviour, then marital status should be considered as a strategic parameter in the design and implementation of HIV/AIDS interventions in Kinshasa, as is elsewhere the case.

2. Methodology

Participants and Sampling Procedures: The study focused on residents of Kinshasa aged ≥ 18 years old, who have been established there for at least six months. A mixed two-stage stratified random sampling and quota sampling method was used to sample the population under investigation. The first stage was stratified random sampling, which involved classification of the 24 Kinshasa suburbs, according to district strata. The four districts of Kinshasa are as follows: Funa (7 suburbs); Lukunga (7 suburbs); Mont-Amba (5 suburbs) and Tshangu (5 suburbs). Then, the list of suburbs served as the sampling frame. The suburbs were stratified, according to their location in those districts, from which three suburbs were randomly selected. Bandalungwa, Barumbu, Gombe, Kasa-Vubu, Kimbanseke, Lemba, Limete, Matete, Masina, N'djili, Ngaliema, Ngiri-Ngiri and Selembao were the selected suburbs. The second stage was cluster-random sampling, whereby the streets containing the houses where the participant would be approached were chosen at random from the list of all the streets located within the limits of a suburb. Lastly, a quota of 30 respondents has been envisaged according to suburb to constitute the sample of 360 participants included in the final analysis. The study's sample size was deemed adequate when considering Tabanick and Fidell's method suggesting a minimum of fifty plus eight times the number of independent variables ($n > 50 + 8m$; where m = number of exogenous variables). Among the people that made up the study's sample, 55.3% were males; while 44.7% were females. 74.2% of the respondents were single; 17.8% were married; 6.7% were living together, but were not yet married; and 1.4% were divorced or widowed.

Measures: A total of 5 instruments were used in this study. The first instrument that comprises three sub-sections, assessed the participants' level of knowledge regarding the meaning of HIV/AIDS (6 items), the different modes of HIV acquisition (13 items); as well as the prevention methods to avoid HIV infection (9 items). The second instrument measured their attitude towards HIV-infected persons, in order to determine how likely that they would be susceptible to adopt behaviours that favour or not stigmatisation and discrimination towards People Living with HIV – PLWH (6 items); the third instrument assessed their level of

exposure to HIV/AIDS information (14 items); while the fourth instrument captured their propensity to access condoms in their area of residence through diverse outlets (5 items). The fifth instrument measured the variables relating to the sexual behaviour of the participants. Although few alterations have been made to adapt to the context of this study, the open-ended questionnaires used are a replica of previously run instruments that have proven to comprise a suitable composite scale in assessing the variables under investigation, originally developed by different authors. Cronbach's alpha, determining the reliability of the questionnaires ranged from 0.69 to 0.95 in previous studies; while it ranged from 0.72 to 0.79 in the current study. In addition to the variables mentioned above, the questionnaires included demographic information, such as area of residence, age, gender, level of education, occupation, socio-economic status, as well as marital status.

Data Collection: The data were collected by means of a cross-sectional survey using anonymous and face-to-face questionnaires that used an assistance-oriented approach. Indeed, the study involved trained interviewers in administering the questionnaires, in order to avoid any misunderstanding of the questions by the respondents, and to eliminate any bias or errors during completion thereof. The training of the interviewers highlighted the necessity for them to avoid influencing the respondents' answers, but rather to bring more clarity to the participants regarding any difficulties that they may incur regarding some wording to ensure that their perception of questions matches that of the researchers. Each participant was given a detailed explanation on the purpose of the study; and s/he was invited to volunteer to take part in the survey. Those respondents who felt uncomfortable providing information deemed too sensitive – after the interview had already commenced – were excluded; and the process of recording information by such individuals was stopped.

Ethics Statement: Permission to carry out the project was granted ethical clearance by the Tshwane University of Technology based in South Africa since the researchers conducting the study belonged to this institution. The study protocol was also approved by the ethics committee of the Protestant University in Congo, given the fact that they are based in the country of the research ground. Furthermore, all the participants gave their consent by signing the designated form. Likewise, trained interviewers who administered the questionnaire consented to respect the confidential aspect of information collected from the respondents. The completed questionnaires were placed in a sealed envelope provided by the interviewers.

Statistical Analysis: Descriptive statistics in percentage were reported to describe participants' level of knowledge regarding the meaning of HIV/AIDS, the level of knowledge regarding the different modes of HIV acquisition, and the level of knowledge regarding the prevention methods to avoid HIV infection, attitude towards HIV-infected persons, level of exposure to HIV/AIDS information, propensity to access condoms as well as their sexual behaviour using SPSS 21. Furthermore, analyses on the significance of the differences in means between marital status categories have been tested through the Analysis of Variance (ANOVA).

3. Findings

Details of the scores describing the participants' HIV/AIDS knowledge, exposure to HIV/AIDS information, propensity to access condoms, attitudes towards HIV-infected persons and sexual behaviour are shown in Table 4. It summarises these by means of descriptive statistics –the distribution of the participants' scores reflecting their current sexual behaviour, level of knowledge related to HIV/AIDS for all 3 dimensions considered in this study that are related to the meaning of the disease, HIV modes of transmission, as well as prevention methods against the acquisition of the virus, attitudes towards HIV-infected persons, frequency of exposure to HIV/AIDS information and ease of access to condoms. The total score of each variable was divided into two categories: positive and negative. The positive category summed the scores that indicated the participants' identification with socially marketed behaviours (abstinence, faithfulness and condom use) with regard to the HIV/AIDS issue, awareness of the epidemic, non-discriminant and non-stigmatising attitudes towards infected persons, good exposure to HIV/AIDS information and accessibility to condoms. On the other hand, the negative category was the summation of scores that showed the participants' rejection of socially marketed behaviours, lack of HIV/AIDS knowledge, discriminant and stigmatising attitudes towards infected persons, poor exposure to HIV/AIDS information and difficulties in accessing condoms.

Table 4: Descriptive statistics of constructs measured

	Total	Positive	Negative
Level of knowledge about the meaning of HIV/AIDS	2 160 100%	1 257 58.19%	903 41.81%
Level of knowledge about the modes of HIV/AIDS transmission	4680 100%	3 455 73.82%	1 225 26.18%
Level of knowledge about the methods of HIV/AIDS prevention	3 240 100%	972 30%	2 268 70%
Attitudes towards HIV-infected persons	2 160 100%	1 808 83.70%	352 16.30%
Exposure to HIV/AIDS information	5 040 100%	1 426 28.29%	3 614 71.71%
Accessibility to condoms	1 800 100%	707 39.28%	1 093 60.72%
Sexual behaviour	2 160 100%	1 064 49.26%	1 096 50.74%

The results of the descriptive statistics presented in Table 4 indicate that the participants reasonably adopt risky sexual behaviours, with a score of 50.74%. They highlight also a fair level of knowledge about the meaning of HIV/AIDS (58.19%) and good level of knowledge about the modes of HIV/AIDS transmission (73.82%); while on the contrary, the results demonstrate that participants lack the necessary knowledge to avoid HIV acquisition (70%). However, it was found that the participants' attitudes do not favour discrimination or stigmatisation of infected persons (83.70%). The results suggest that the participants were poorly exposed to HIV/AIDS-related information (28.29%); and that they have limited access to condoms. Noticeably, no significant difference between the four marital groups was found in scores regarding both the knowledge about the meaning of HIV/AIDS and the knowledge of the mode of transmission of HIV/AIDS, as indicated in Table 5. On the contrary, differences emerge between the four marital groups in scores regarding the knowledge of the prevention methods. The study, therefore, concludes that people's level of knowledge of the prevention methods differs significantly at $p < 0.01$ ($p = 0.00$), based on their marital status. In other words, there are groups that should be considered as the most-at-risk of infection than others, due to the lack of adequate knowledge of the prevention methods. The results in Table 5 also paved the way for the study to argue that people behave, or fail to behave in a discriminatory way towards HIV-infected persons, regardless of their marital status. Likewise, people do not have adequate access to HIV/AIDS information and condoms on the basis of their marital status.

Lastly, the results in Table 5 show that there is a significant difference somewhere between the four marital groups regarding sexual behaviour at $p < 0.01$ ($p = 0.01$). This means that people engage in unsafe/safe sexual behaviour, according to their marital status. In order to detect the statistically significant disparities in all the variables between the four marital groups (Group 1: Single, Group 2: Married, Group 3: People living together, and Group 4: Divorced/Widowed) investigated in this study, a one-way between-groups analysis of the variances was conducted by using SPSS 21. The results from Table 5 demonstrate a statistically significant difference in knowledge of the prevention methods ($F_{(3,356)} = 4.47$; $p = 0.00$) for the four marital groups at the $p < 0.01$ level. The Eta squared value (0.04), obtained by dividing the sum of squares between the groups (39.710) and the total sum of squares (1093.600), indicates quite small differences in the participants' level of knowledge of the prevention methods associated with their marital status, despite reaching statistical significance. Similarly, Table 5 indicates a statistically significant difference in sexual behaviour ($F_{(3,356)} = 4.37$; $p = 0.01$) for the four marital groups at the $p < 0.01$ level. The Eta squared value (0.04), obtained by dividing the sum of squares between the groups (60.502) and the total sum of squares (1705.289), indicates quite small differences in participants' sexual behaviour associated with their marital status, notwithstanding the statistical significance. However, the results in Table 5 do not enable the identification of the marital groups between which the mean differences are statistically significant for both the level of knowledge on the prevention methods and sexual behaviour. Thus, Post Hoc Test comparisons using the Tukey HSD, whose results are presented in Table 6 were performed to make such identification possible.

Table 5: ANOVA/ Marital status

		df	F	Sig.
Knowledge about the meaning of HIV/AIDS	Between Groups	3	0.621	0.602
	Within Groups	356		
	Total	359		
Knowledge about the modes of HIV/AIDS transmission	Between Groups	3	2.881	0.306
	Within Groups	356		
	Total	359		
Knowledge about HIV/AIDS prevention methods	Between Groups	3	4.471	0.004**
	Within Groups	356		
	Total	359		
Attitudes towards HIV-infected persons	Between Groups	3	1.006	0.390
	Within Groups	356		
	Total	359		
Exposure to HIV/AIDS information	Between Groups	3	0.448	0.719
	Within Groups	356		
	Total	359		
Accessibility to condoms	Between Groups	3	1.186	0.315
	Within Groups	356		
	Total	359		
Sexual behavior	Between Groups	3	4.365	0.005**
	Within Groups	356		
	Total	359		

** There is a significant difference among the means scores on the dependent variable for the four groups at the 0.01 level (2-tailed).

Post Hoc Tests: The results in Table 6 indicate that there is a statistically significant difference at $p < 0.01$ and $p < 0.05$ in mean scores of divorced/widowed people; and all the three other marital groups (single $p = 0.00$, married $p = 0.01$ and people living together $p = 0.02$) in knowledge about HIV/AIDS prevention methods. Divorced/widowed individuals' mean score in knowledge about HIV/AIDS prevention methods resulted in the lowest of all the four marital groups. This may indicate that the group comprising divorced/widowed lacks most adequate knowledge of HIV/AIDS prevention methods compared with others. Therefore, it is recommended that social marketers should target with much more attention this particular group, when seeking to raise HIV/AIDS awareness levels. On the other hand, it was found that there is a statistically significant difference at $p < 0.01$ in mean scores of single and married people in sexual behaviour (MD= 1.00240 ranged between 0.2302 and 1.7746, $p = 0.01$). Single persons resulted in higher scores than married people, implying that single people engage less in unsafe sexual practices than married people. For this very reason, the study suggests that social marketing campaigners addressing the HIV/AIDS issue should devote particular interest to the married, when it comes to human sexual behavioural change.

Table 6: Multiple comparisons/ Marital status Tukey HSD

				95% Confidence Interval		
		(I) Marital groups	(J) Marital groups	Mean Difference(IJ)	Sig.	Lower Bound Upper Bound
Knowledge about HIV/AIDS prevention methods	Single	Married		0.09703	0.977	-0.521 0.7151
		Living together		0.33661	0.795	-0.609 1.2830
		Divorced/Widow-er		2.77828**	0.002	0.7736 4.7829
	Married	Single		-0.09703	0.977	-0.715 0.5211
		Living together		0.23958	0.938	-0.823 1.3026
		Divorced/Widower		2.68125**	0.005	0.6190 4.7435
	Living together	Single		-0.33661	0.795	-1.283 0.6098
		Married		-0.23958	0.938	-1.302 0.8234
		Divorced/Widow-er		2.44167*	0.021	0.2584 4.6249
	Divorced/Widow-er	Single		-2.77828**	0.002	-4.782 -0.7736
		Married		-2.68125**	0.005	-4.743 -0.6190
		Living together		-2.44167*	0.021	-4.624 -0.2584
Sexual behaviour	Single	Married		1.00240**	0.005	0.2302 1.7746
		Living together		0.62219	0.526	-0.560 1.8045
		Divorced/Widow-er		1.18052	0.617	-1.323 3.6849
	Married	Single		-1.00240**	0.005	-1.774 -0.2302
		Living together		-0.38021	0.881	-1.708 0.9478
		Divorced/Widow-er		0.17813	0.998	-2.398 2.7545
	Living together	Single		-0.62219	0.526	-1.804 0.5601
		Married		0.38021	0.881	-0.947 1.7082
		Divorced/Widow-er		0.55833	0.952	-2.169 3.2858
	Divorced/Widow-er	Single		-1.18052	0.617	-3.684 1.3238
		Married		-0.17813	0.998	-2.754 2.3982
		Living together		-0.55833	0.952	-3.285 2.1691

* The mean difference is significant at the 0.05 level.

** The mean difference is significant at the 0.01 level.

4. Conclusion

The present study highlights the importance of taking into account the marital status in implementing and designing HIV/AIDS prevention campaigns. The results presented in the study's findings demonstrate that individuals engage in risky sexual behaviour, while lacking adequate knowledge of HIV/AIDS prevention methods due to their poor exposure to HIV/AIDS information and their accessibility to condoms. Indeed, several studies in the field of HIV/AIDS have demonstrated that ignorance (opposed to knowledge) with regard to the HIV/AIDS epidemic leads to dynamic sexual relations and practices both within and outside marital unions, promoting vulnerability to HIV/AIDS (Saddiq, Tolhurst, Laloo, & Theobald, 2010; Cai, et al., 2013; Sacolo, et al., 2013). Furthermore, evidence in the literature asserting that a better exposure to HIV/AIDS information raises HIV/AIDS awareness through knowledge exists; while the ease in accessing condoms influences the consistent use thereof (Moodley, 2007; Asante, 2013). Additionally, the study found that there are significant differences ($p = 0.004$) between the marital groups regarding the level of knowledge about HIV/AIDS prevention methods, as also did the studies conducted by Ama, Shaibu and Burnette (2016) ($p = 0.00$), as well as a study by Asante and Oti-Boadi (2013) ($p = 0.008$). However, if the present study tested the differences for the three different aspects of knowledge that are the meaning of HIV/AIDS, modes of HIV transmission and prevention methods separately, Ama, Shaibu and Burnette (2016) and Asante and Oti-Boadi (2013) summarised them and divided the marital groups into three categories: single, married and in relationship (for Asante and Oti-Boadi, 2013); and single, married and others which included, in addition, widows(ers) and divorced, co-habiting individuals) for Ama, Shaibu and Burnette (2016); while this one integrated the four marital groups.

Also, the Ama, Shaibu and Burnette (2016) study departed from the two others – whose results relied on ANOVA – by using the Mann-Whitney, a non-parametric test. It is noticeably important to highlight that as the findings of the present study established a difference uniquely in knowledge about HIV/AIDS prevention methods only between the divorced/widowed and the three other marital groups including single, married and living together sexual behaviour; while no significant difference was found between the aforementioned other marital groups. This is in line with the results of Haroun et al. (2016) study who found no significant difference in HIV/AIDS knowledge between single and married individuals. Although people demonstrate a lack of adequate knowledge about HIV/AIDS prevention methods, it emerges that divorced/widowed people have the lowest level of knowledge about HIV/AIDS prevention methods. On the other hand, the results of the ANOVA testing differences between the marital groups regarding sexual behaviour confirmed somehow the findings of Hong and Thepthien (2017) study, which found statistically significant differences ($p < 0.05$) between individuals cohabiting and non-cohabiting with their partners in engaging in risky sexual behaviours with those without a cohabiting partner reporting high-risk sexual behaviour. The difference in sexual behaviour for the present study revealed that the married individuals engage more in unsafe sexual practices in comparison with single individuals.

For example, despite the fact that marriage does not guarantee fidelity; as it was found in Africa that men are often engaged in extramarital sexual activities, it was observed that married women do not use condoms with their husbands; and they depend on their husband's role as the protector (Golobof, Weine, Bahromov, & Luo, 2011). It is strongly suggested that social marketers learn and consider the lessons drawn through these investigations. The investigation of the risk of HIV/AIDS for married people is something complex; because demographic variables, such as age, area of location, level of education, socio-economic status and profession negate the relationship between marital status and the importance of the virus. It is important to realise that those socio-demographic variables and sexual behaviour patterns are related to both marital status and the spreading of the disease. Thus, efforts are welcomed to analyse the situation of the virus considering the specifics of marital status. Hence, the answer to the study's research question is "yes" - "marital status" is a strategic parameter in the design and implementation of HIV/AIDS interventions in the context of Kinshasa, like elsewhere on the continent. In the context of this study, social marketing programmes devoted to the HIV/AIDS epidemic should put more effort into targeting marital groups that show significant statistical differences with their counterparts in lacking knowledge about the prevention methods and engaging in risky sexual behaviours or practices, in order to reduce the gaps between all marital categories. However, this does not mean that they should forget about marital groups that demonstrated higher knowledge and lesser risky sexual behaviour; since the fight against the epidemic necessitates continuous efforts in recalling everyone to the right behaviour to adopt, in order to slow down the spreading of the virus and to halt the epidemic.

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