Determinants of Low Use of Contraceptive Methods by Women of Childbearing Age in Mwene Ditu Town, DRC: A Cross-Sectional Study

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Abstract

Introduction: Contraception is one of the interventions to reduce unwanted pregnancies, complications related to related abortions, and sometimes maternal deaths. However, in the town of Mwene-Ditu, the use of modern contraceptive methods remains low. Based on this, this study wanted to identify the determinants associated with low use and identify the most used contraceptive method. **Methods:** A cross-sectional analytical study was conducted in the City of Mwene-Ditu from March to July 2021. The data was collected using a pre-established questionnaire and analyzed using EpiinfoTM. The chi-square test of independence and Fisher's exact were used to study the associations between the dependent variable and the independent variables. Logistic regression was used on significant variables. The p-value was significant when it was less than 0.05. **Results:** The women of childbearing age surveyed numbered 422. About 52.6% of them used contraceptive methods. The condom was the most used contraceptive method (71%). After logistic regression, the low use of contraceptive methods was determined by the low level of education (primary and secondary) (p = 0.00); women's religion, postolo, Jehovah's Witnesses and other religious beliefs (p = 0.01); ignorance of modern contraceptives (p = 0.00), non-use of health services (p = 0.02) and unfavorable attitude towards modern contraceptives (p = 0.02). **Conclusion:** The education of women of childbearing age and the intensification of sensitization on contraception by health workers remain crucial axes to increasing the use of contraceptive methods in this town.

1. Introduction

Unwanted pregnancies and related abortions are very common among women of childbearing age, although there are contraceptive methods to prevent or avoid them [1].

According to the WHO, in 2019 about 1.1 billion out of 1.9 billion women of reproductive age needed family planning. However, only 842 million were using contraceptive methods and 270 million had an unmet need for contraception. Contraceptive prevalence has stagnated globally around at 77% from 2015 to 2020. However, it remains low in the African region, although it has increased from 55% to 58%. Recent data indicates that 214 million women of childbearing age in developing countries have an unmet need for contraception [2].

The Democratic Republic of the Congo (DRC) is not spared from the low use of modern contraceptive methods. At the national level, the demographic and health survey (EDS) found that 19% of women used a contraceptive method. This modern contraceptive prevalence varied from one environment to another with higher rates in urban areas compared to rural areas [3]. In Kinshasa, it increased from 18.5% to 26.7% among women in unions between 2013 and 2017 [4]. It was 27.6% in the city of Lubumbashi [5]; 18.4% in the city of Mbuji-Mayi [6] and 15% in the city of Mwene-Ditu [7].

The low use of modern contraceptive methods concerns both sexes, especially women of childbearing age in particular. Countries with low contraceptive prevalence have high maternal mortality rates [8]. However, access to these contraceptive methods can be unequal depending on the ethnocultural group, relationship status, sexual orientation, or socioeconomic status of young women [9] [10]. There is still a significant proportion of women of childbearing age who do not use modern contraceptive methods for multiple reasons [11] such as the limited choice of contraceptive methods [2], the desire to become pregnant [12] [13] [14], husbands' opposition to contraceptives [13] [15], women's reluctance, lack of knowledge of contraceptives and family planning services, women's fear of side effects of modern contraceptives, and religious beliefs [16] [17] [18].

The city of Mwene-Ditu records a low contraceptive prevalence with all its corollaries, in particular maternal deaths or complications related to abortions

or unwanted pregnancies [7]. Every woman has the right to life and cannot lose it by wanting to give life. To date, there is no study conducted in this region to know the determinants of the low use of modern contraception. The identification of these associated factors can be a lever for improving reproductive health by contributing to the reduction of maternal morbidity and mortality; based on consistent strategies. This is all the more important because the use of modern contraceptive methods can prevent 35% of maternal deaths if at least 60% of women of childbearing age use them [19].

Based on this, this study aimed to identify the most used modern contraceptive methods and the factors associated with the low use of these methods by women of childbearing age in the city of Mwene-Ditu where these determinants would be other than those found in major cities across the country.

2. Methods

This cross-sectional analytical study was conducted among women of childbearing age in the Health District (HD) of Mwene-Ditu, the second Town of Lomami province in the DRC. This HD includes 23 health areas (HA). Mwene Ditu is located at latitude 7˚00'00" south; longitude 23˚27'00" East and covers a population of 453,748 inhabitants. The study was conducted for five months, from March to July 2021. Data collection in the field took place from May 1 to 30, 2021. The rest of the time was used for analysis and writing of the manuscript.

Women aged 15 to 49 constituted the source population from which the sample was drawn. The lower limit of this age interval was chosen because of the fact that early marriage (with underage girls) is sometimes observed in this middle town. Multistage sampling was used. Initially, simple random sampling was used with replacement to select 12 HA out of the 23 in Mwene-Ditu. Then, a simple probabilistic method was used for the selection of 3 cells in each previously selected HA in which 4 avenues were selected. Finally, in each avenue, 3 households were systematically selected in which a woman of childbearing age was interviewed. In each avenue, the interviewer tossed a pen in the air and the orientation of the marble determined the first household to investigate. The other households were obtained by applying a sampling interval calculated on the basis of the following formula: interval = (total number of households on the avenue)/(the number of households to be surveyed).

All women aged 15 to 49 living in the targeted households who gave informed consent were included in this study. The one who for some reason wanted to withdraw was automatically excluded from this study. The instrument used for data collection was a structured questionnaire with closed responses. The questionnaire was designed in perfect harmony with the specific objectives, the variables of this study and translated into the local language of the environment (the Tshiluba) for the respondents who did not master French. It was initially tested on a small sample of 25 women and then improved before proceeding to the actual data collection. Ethical instructions were taken into account in our

study. Anonymity, confidentiality, consent were guaranteed.

The dependent variable was low use of contraceptive methods and self-employed, age, marital status, parity, level of education, occupation, religion, knowledge of contraceptive methods, use of health, attitude towards the contraceptive, source of information on contraceptive methods and reasons for refusing to use contraceptive methods.

The sample size was calculated using the STATCALC program of the EpiinfoTM software version 7.2.2.6 (CDC), assuming a confidence level of 95% with a prevalence of 50%, which is the middle between the low and high prevalence to be used in case the prevalence is not well known. This is how it was chosen in this study given that it varied from one environment to another according to the studies carried out. Using this program, the sample was to be 384 women. Taking into account the proportion of missing data, the adjustment consisted of adding 10% of the size to the value obtained. Thus, the final adjusted sample size was 422 women.

Data collected in the field were entered using Excel 2007 software and imported into Epiinfo software for statistical analysis. Excel 2007 software was used for the presentation of figures and tables. The chi-square test of independence and Fisher's exact were used to study the associations between the dependent variable and the independent variables. Furthermore, to minimize confounding, the significant factors were subjected to logistic regression. The significance level was set at $p < 0.05$ in all cases.

3. Results

The average age of 422 women surveyed was 29 years (Sdv 9 years). 251 women of childbearing age, or 59.5%, had secondary education and 68, or 16.1%, university. 161 women were not in a marriage union. 176 women or 41.7% were multiparous and 32 or 7.6% were primiparous. 225 women or 53.3% had a profession. 188 women, or 44.5%, were believers in revivalist churches (Pentecostals) and 23, or 5.5%, Protestants (Table 1).

Of the 383 women who knew about contraceptive methods, 190 or 49.6% were informed about contraceptives in health facilities and 88 or 23% from friends. 222 women of childbearing age used modern contraceptives and 200, or 47.4%, did not use them (Table 2).

The contraceptive methods used are as follows: condoms, 71%; injectable contraceptives, 11%; pills and implants, 9% each method (Figure 1).

The reasons for non-use noted are: refusal by the partner (35%), fear of the adverse effects of contraception (31%); the desire to have children (20%) and religious beliefs (14%) (Figure 2).

There was no statistically significant association between age, marital status, parity, employment status, parity of women of childbearing age and low use of contraceptive methods (p-value > 0.05 in all these cases). However, a statistically significant association was observed between the low use of contraceptive me-

thods with the following factors: primary (p = 0.00) and secondary (p = 0.00) education levels; religion: postolo women, a Christian sect (p = 0.00) and Jehovah's Witnesses (p = 0.00); ignorance of modern contraceptives, non-use of health services (p = 0.02) as well as unfavorable attitude towards modern contraceptives (p = 0.02) (Table 3).

Statistically significant values adjusted with the regression include: primary and secondary education levels (p = 0.00); the religion of postolo women and Jehovah's Witnesses (p = 0.01); ignorance of modern contraceptives (p = 0.00), non-use of health services (p = 0.02) and unfavorable attitude towards modern contraceptives (p = 0.02) (Table 4).

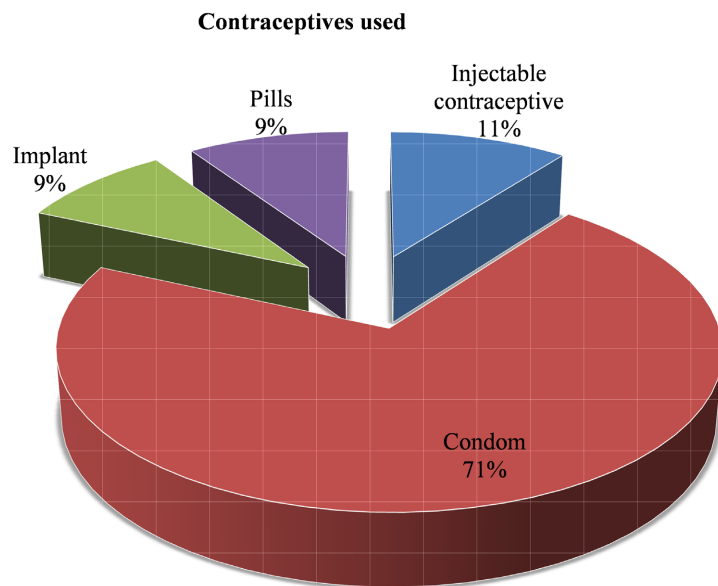**Figure 1.** Modern contraceptives used by women of reproductive age.
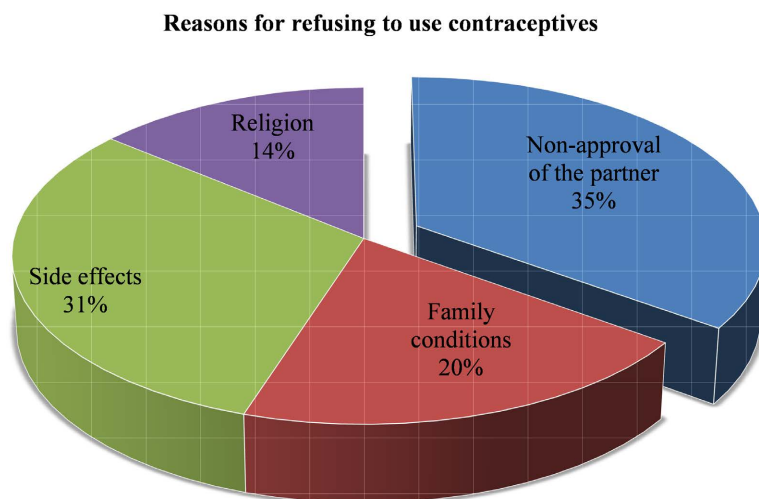

Figure 2. Reasons for refusal to use modern contraceptives used by women of child-bearing age.

Table 1. Socio-demographic characteristics of respondents.

Variables	Size (422)	%
Ange range		
15 - 24	187	44.3
25 - 34	141	33.4
35 and over	94	22.3
Average age = 29 ans (Sdv 9 ans)		
Marital status		
Single	134	31.8
Divorcee	17	4
Widow	10	2.4
Married	261	61.8
Educational level		
Primary	103	24.4
Secondary	251	59.5
Higher and university	68	16.1
Parity		
Nulliparous	151	35.8
Primiparous	32	7.6
Pauciparous	63	14.9
Multipara	176	41.7
Occupation		
Yes	225	53.3
No	197	46.7
Religion		
None	27	6.4
Postolo	45	10.7
Jehovah's witnesses	25	5.9
Protestant	23	5.5
Revival church	188	44.5
Muslim	26	6.2
Catholic	51	12
New church Apostolic	37	8.8

Table 2. Information and use of modern contraceptive methods.

Variables	Size	%
Knowledge of contraceptive methods	n = 422	
Yes	383	90.8
No	39	9.2
Information source	n = 383	
Friend	88	23
School/University	105	27.4
Health center	190	49.6
Use of contraceptive methods	n = 422	
Yes	222	52.6
No	200	47.4

Table 3. Statistical associations.

Variables	Low use of contraceptives			χ^2	p-value
	Yes (200)	No (222)	Total (422)		
Age					
15 - 24	97	90	187	1.81	0.16
25 - 34	63	78	141	0.04	0.79
35 et plus	40	54	94	1	
Marital status					
Single	70	64	134	1.85	0.16
Divorcee	8	9	17	0.00	1.00
Widow	6	4	10	0.41	0.35
Married	116	145	261	1	
Educational level					
Primary	63	40	103	23.69	0.000
Secondary	122	129	251	14.32	0.000
Higher and university	15	53	68	1	

Continued

Woman with profession					
No	97	100	197	0.37	0.49
Yes	103	122	2245	1	

Woman's religion					
None	18	9	27	5.01	0.02
Postolo	32	13	45	9.20	0.00
Jehovah's witnesses	18	7	25	6.70	0.00
Protestant	11	12	23	0.49	0.41
Revival church	77	111	188	0.22	0.58
Muslim	13	13	26	0.84	0.30
Catholic	18	33	51	0.00	1.00
New church Apostolic	13	24	37	1	

Parity					
Nulliparous	82	69	151	1.46	0.18
Primiparous	13	19	32	1	
Pauciparous	27	36	63	0.00	1.00
Multipara	78	98	176	0.04	0.84

Knowledge of modern contraceptives					
No	39	0	39	45.4	0.00
Yes	161	222	383	1	

Use of health services					
No	124	113	237	4.82	0.02
Yes	76	109	185	1	

Attitude towards the use of contraceptives					
Unfavorable	124	113	237	4.82	0.02
Favorable	76	109	185	1	

Table 4. Statistical associations after regression.

Variables	Low use of contraceptives			p-value	p-value (régression)
	Yes	No	Total		
Educational level					
Primary	63	40	103	0.00	0.00
Secondary	122	129	251	0.00	0.00
Woman's religion					
None	18	9	27	0.02	0.01
Postolo	32	13	45	0.00	0.01
Jehovah's witnesses	18	7	25	0.00	0.01
Knowledge of modern contraceptives					
No	39	0	39	0.00	0.00
Use of health services					
No	124	113	237	0.02	0.02
Attitude towards the use of contraceptives					
Unfavorable	124	113	185	0.02	0.02

4. Discussion

The low level of education (primary and secondary), the religion of women (post-olo and Jehovah's Witnesses); Ignorance of modern contraceptives, non-use of health services, and unfavorable attitude towards modern contraceptives were the determinants of the low use of modern contraceptive methods among women of childbearing age. The condom was the most used method.

The use of contraceptive methods depends on several factors. It would be desirable to also involve the husbands of these women in this study to identify all the factors. That said, it is possible that confusion arises in the identification of incriminated factors. To circumvent this limit and the biases of the statistical analyses, a linear regression of the statistically significant variables was applied.

Almost all of the women of childbearing age surveyed in the town of Mwene Ditu knew about modern contraceptive methods. A tiny part did not have information on contraceptive methods. On this, the number of women to be distributed according to the source of information was less than that of the size of the study because it only concerned women who had the information. In our opinion, urban women are largely more informed. This is justified by the easy access to information through the various channels but also access to health fa-

cilities which is inevitable for any woman of childbearing age. The same result was obtained in similar studies carried out in different cities of the DRC, notably Mbuji-Mayi [6], Bukavu [18] in the DRC, and elsewhere [14]. The health structure was the main source of information for women on modern contraceptive methods in our study and those of Lubumbashi and Mbuji Mayi [5] [6]. Ignorance of modern contraceptive methods was a determinant of low use. Women who knew about contraceptive methods were more likely to use them; which corroborates the results found in Ethiopia [14] and Burkina Faso [16].

Modern contraceptive methods were used by about half of women of reproductive age in Mwene Ditu Town. Compared to studies conducted elsewhere, the situation varies from one setting to another. In the city of Lubumbashi (DRC), the contraceptive prevalence was very low [5]. On the other hand, in South Kivu, the prevalence of the use of modern contraceptive methods was higher than that found in this study [18]. This situation would be influenced by the implementation of the Family Planning program, access to information and habits in the environment. With regard to the city of Mwene Ditu, apart from the previous reasons, the free granting of various methods by the health structures thanks to the support of USAID would explain this contraceptive prevalence.

The Condom was the most used method. This is explained by the fact that it has been the subject of several sensitizations in the context of the fight against HIV for several decades on the one hand and on the other hand, it is accessible in pharmacies, which are scattered in the city and closer to the population. This result does not corroborate that observed in Senegal, where injectable methods and the pill were the methods most used by women of childbearing age [20]; similarly in Tanzania, where injectable methods came first, followed by condoms [21]. This difference would be explained in our environment by the fear of the side effects of injectable methods. This difference would be explained by the fear of the side effects of injectable methods. Women who did not use contraceptive methods gave as reasons non-approval of partners, family conditions (requirement to procreate), fear of side effects, and religious conditions. The reasons given by these women were similar to those in the studies from Mbuji Mayi, Ethiopia, and Burkina Faso [6] [13] [15] [16]. The non-approval of husbands was also noted in Tanzania among the reasons for refusing to use contraceptive methods [21]. Moreover, some authors have mentioned reasons contrary to those of our study, in particular the desire to become pregnant [12] [13] [14]. A plausible explanation for these differences in refusal would be the multiplicity of often contradictory sources of information on family planning in the different communities of women of childbearing age.

Women aged 35 and over had used more modern contraceptive methods than those aged 15 to 24. This is sometimes linked to the fear of high-risk pregnancies beyond the age of 35 on the one hand and on the other hand to the information received on contraception during several prenatal consultation visits during previous pregnancies, especially since the first source of information was the health center. Although young women of childbearing age have low use of modern

contraceptive methods, there is no statistically significant association between the age of these women and the low use of modern contraceptives. This observation is similar to that found in Mauritania [20].

Respondents were predominantly married, more represented by multiparous women and having at least one profession. This result is a reflection of early marriages among women of childbearing age in the middle of Kasai. These results corroborate those found in Mauritania and South Kivu [18] [20]. The situation of a woman with a job is justified by the socio-economic conditions of the town of Mwene Ditu where small trade or activities are needed for the survival of her family. It is observed in this study that the marital status, parity, and occupation of women of childbearing age did not influence the low use of modern contraceptive methods in the Mwene-Ditu Health District. In Bukavu, South Kivu, it was also demonstrated that the age and occupation of women showed no significant relationship [18]. Unlike a Tanzanian study which found that having a profession was significantly associated with the use of methods contraceptives [21]. Even if this study did not find a significant link between marital status, parity, occupation, and the low use of modern contraceptives, it is true that in this environment, women have the fear of contracting an unwanted pregnancy, for fear that she will be the victim of stigmatization and social discrimination. Thus, the hypothesis that the occupation of women of childbearing age would be a determinant of the low use of modern contraceptives is rejected.

The majority of women surveyed were educated at a secondary and primary level. This is linked to the habits of the environment where young girls prefer to go early to marriage than continue their university studies. A similar situation was found in Mbuji-Mayi [6] and South Kivu [18]. On the other hand, in Burkina Faso, Mauritania, and Côte d'Ivoire, women with no level of education were the most represented [16] [20] [22]. The low level of education of women (primary and secondary level) had a significant association with the low use of modern contraceptive methods and the unfavorable attitude towards the use of contraceptives. This result shows once again that the education of women of childbearing age is a crucial strategy for their empowerment and consequently for the increased use of modern contraceptives.

The religion of women of childbearing age had a significant link with the low use of modern contraceptive methods in this study, particularly among women Jehovah's Witnesses, Postolo, and other religious beliefs. This result would be explained by the religious convictions of the latter on the one hand and on the other hand, the weak representation of these in our sample.

The majority of women used the health service, either for prenatal consultation, childbirth, preschool consultation, or postnatal consultation. As a result, the chance of receiving information about contraception increases. The media cannot cover the whole population. Therefore, there is a significant link between low use of health services and low use of contraceptive methods. Women who do not have easy access to structures do not have clear information on contraception and lack support from health personnel.

It is important for health care providers to increase awareness of the importance of family planning to increasingly improve the use of modern contraceptives by women of childbearing age. Future studies will have to complete the subject by involving men.

5. Conclusion

The low use of contraceptive methods is an important factor in morbidity and mortality and high rates of unwanted pregnancies among women of childbearing age. The Condom was the most used method. The determinants of low use of contraceptive methods were the low level of education of women of childbearing age; religion: Jehovah's Witnesses; Postolo and having other religious beliefs; ignorance of modern contraceptives; the low use of health services as well as the unfavorable attitude towards the use of modern contraceptive methods. The education of women of childbearing age and the intensification of sensitization on contraception by health workers remain the crucial axes to increasing the use of contraceptive methods in this town.

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Authors' Contributions

Kazadi designed the study, conducted the data analysis and drafted the manuscript; Masengu contributed to the development of the manuscript, and the data collection; Beya contributed to data collection and analysis; Tshibangu and Luboya carried out the final analysis of the data. All have read and approved the latest version of the manuscript.

Conflicts of Interest

The authors declare no conflicts of interest.

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