ORIGINAL RESEARCH ARTICLE

Barriers to Adoption of Family Planning among Women in Eastern Democratic Republic of Congo

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Abstract

The objectives of this survey were to identify women's level of KAP toward FP; identify possible barriers to using FP; determine pregnancy spacing pattern; and ascertain the level of FP promotion by health workers. This was a 2-weeks cross-sectional survey at all maternity units in Butembo of post-partum women. 572 women were interviewed. FP knowledge was high (76%), perception good (80%). Majority used traditional methods (65%), mostly Calendar method (72%). Barriers to using modern FP included lack of knowledge, fear of side effects, religious considerations and husband opposition. Unmet need for spacing and limiting was high (21 & 31%).For majority (56%), pregnancy spacing met WHO's Healthy Timing and Spacing of Pregnancy recommendations. Promotion of FP was poor (42%). Training of health workers, advocating modern contraception, improving FP services in all public health facilities and promoting FP on each contact of women is highly recommended in this city (*Afr J Reprod Health 2011; 15[1]: 69-77*).

Résumé

Obstacles à l'adoption de la planification familiale parmi les femmes dans l'est de la République Démocratique du Congo. Cette enquête avait pour objectifs d'identifier le niveau CAP du FP, les obstacles possibles à l'emploi de la FP, de déterminer les habitudes d'espacement des naissances et le niveau de la promotion de la PF par le personnel sanitaire. Il s'agissait d'une enquête transversale qui a duré deux semaines, auprès de toutes les femmes du post partum dans toutes les unités de soins maternels à Butembo. Nous avons interrogé au total 572 femmes. Le niveau de la connaissance de la PF était élevé (76%), la perception était bonne (80%). La plupart d'entre elles utilisaient les méthodes traditionnelles (65%) surtout la méthode du calendrier (72%). Les obstacles à l'utilisation des méthodes modernes comprennent le manque de connaissance, la peur des effets secondaires, des considérations religieuses et l'opposition par le mari. Les besoins non satisfaits de l'espacement et de la limitation des naissances étaient d'un niveau élevé (21% & 31%). Pour la majorité (56%), l'espacement de grossesse était conforme aux recommandations de l'OMS. Nous préconisons bien la formation du personnel de santé, le plaidoyer en faveur de l'usage des méthodes modernes, l'amélioration des services de la PF dans tous les établissements de santé publics et la promotion de la PF à chaque contact des femmes dans cette ville (*Afr J Reprod Health 2011; 15[1]: 69-77*).

Keywords: Pregnancy Spacing; Family Planning; Congo

Introduction

Worldwide, FP programs have yielded dramatically positive gains over the past decades. In developing countries, about half of couples now use modern contraception[1]. These trends have meant millions of lives saved and additional benefits for women and children who enjoy healthier lives and can achieve greater levels of education and empowerment. Despite these gains elsewhere, contraceptive use is still low and the need remains high in some of the world's poorest and most populous countries like the Democratic Republic of Congo. In most Africa countries, contraceptive prevalence rate varies from regions to regions, from 58% in southern Africa to 7% in the central African region, in which Democratic Republic of Congo belongs[1].

There is a scarcity of published articles on FP for Democratic Republic of Congo. However, according to the latest 2007 DHS[2], despite a high level of knowledge on contraceptives (82%), the contraceptive prevalence rate (CPR) for modern methods was low (7%). According to the DHS, the CPR is higher in Western provinces than the Central and Eastern provinces. Studies also show that the maternal mortality ratio (MMR) in the country is among the highest in the world. Although the MMR has declined by almost two-thirds since the 2001 DHS estimate of 1,837 deaths per 100,000 live births, to 549 deaths per 100,000 live births from the 2007 DHS, we believe that in some parts of Eastern Democratic Republic of Congo, the situation is much worse. There are places where the MMR has been estimated to reach 3,000 per 100,000 live births[3]. The high ratios are thought to be due to the high fertility

rate, low contraceptive prevalence rate, and a short period of time between pregnancies.

Family planning (FP) helps individuals achieve their fertility intentions of having only their desired number of children and having these children by proper spacing of pregnancies[4]. It is also well known that FP helps prevent child as well as maternal deaths by reducing women's exposure to the health risks of pregnancy, childbirth, and abortion and giving women more time to care for their children and themselves. The World Health Organization (WHO), in 2006, issued a recommendation that, after a live birth, the interval before attempting the next pregnancy should be at least 24 months, and at least six months after a miscarriage or induced abortion, in order to reduce the risk of adverse maternal, perinatal, and infant outcomes (Healthy Timing and Spacing of Pregnancy)[5]. Several studies have confirmed this recommendation[6-10].

The Democratic Republic of Congo National Reproductive Health Program (PNSR) has made reducing maternal mortality its top priority. However, little financial support from the government or outside sources, makes it difficult for them to effectively achieve this goal. Moreover, the FP program is not well integrated into the health system and little is known about knowledge of and attitudes toward FP among women in this part of the country. Results from the recent DHS may not be representative enough to conclude this kind of information for Eastern Democratic Republic of Congo, and specifically for the city of Butembo.

The present study was therefore undertaken with the aim of assessing the extent of the knowledge, attitudes and practice (KAP) of FP in Butembo and identifying a plausible strategy for reducing unwanted pregnancies and the associated morbidity and mortality. The study also attempted to identify whether couples are following the healthy timing and spacing of pregnancy strategy as recommended by WHO, to assess their degree of unmet need at the time of pregnancy; and the extent of FP promotion at health facilities.

Our study focused on women who have just delivered because they are very likely to get pregnant again in a short period of time and the information extracted from them may reflect the extent of FP use and adherence to Healthy Timing And Spacing Of guidelines in the whole community. We hope that our study will provide baseline data to assist policy makers in developing appropriate evidence-based strategies to promote Healthy Timing and Spacing of Pregnancy by the use of FP in this fast growing city. It will also enable them to monitor changes in FP practice and keep track of progress towards program goals.

Methods

This study was a cross-sectional survey conducted in the city of Butembo in June 2010. Butembo, one of the largest cities in Eastern Democratic Republic of Congo, North-Kivu Province, is located at about 300km north from its provincial capital, Goma. Its population is fast swelling, currently estimated at about 800,000. This population figure is expected to reach one million soon.

Since we did not have any previous FP KAP prevalence for the city, we used a convenience sample size calculated on the assumption of a prevalence rate of 50%, the most conservative estimate, for all reproductive health outcomes according to the Division of Reproductive Health (DRH) at the Centers for Disease Control and Prevention (CDC)[11]; 55% as the worst outcome, 95% confidence interval and a response rate of 80%.

With the above assumption, 578 women were expected to be interviewed to obtain 462 completed interviews, from a total annual delivery number of 17,750 deliveries in the city's maternities according to 2008 statistics[12]. The number of women interviewed at each of the 50 official maternities in the city was proportional to the total number of deliveries. Participants provided informed consent, and all approvals to conduct the survey were obtained. Trained health workers fluent in the local language conducted the interview using a pre-tested questionnaire designed for this survey.

The data collected was entered and analyzed using the computer software EPIINFO, version 3.5.1, of CDC, USA. Where necessary, frequency or percentage as well as Chi-square, Fisher's exact, and student's t-tests were used, with $p < 0.05$ determining the significance level for differences.

Results

Demographic Characteristics of Respondents

A total of 578 women were planned to be interviewed, but 574 post-delivery women were reached due to a lower volume of deliveries during the data collection period. Among them, two (0.3%) did not give their consent for interview, giving a response rate of nearly 100% or 572 women. Table 1 presents the socio-demographic characteristics of those who consented.

Almost two-thirds of respondents (64%) were from urban areas of the city. Their mean age was 26.7 (range: 14 – 48). Most of the women were married (62%) and had some degree of education (83%). Only 18% were illiterate. About two-thirds (60%) were Catholic and the rest Protestant. The most common occupation among respondents was housewife. The mean daily expense was 4.6 US\$ (range: 1 – 25 US\$).

Degree of Knowledge about Fertility and Family Planning

As shown in Table 2, 68% of women were aware of the fertile period. However, when asked to specify that period, only 35% of all women could correctly state it (mid-cycle).

Concerning awareness of FP, three-fourths of

Table 1: Socio-demographic characteristics

Characteristics	N	%
Age (yr) (N=572)		
Mean age:	26.7 (14 – 48)	
≤19	82	14.3
20 – 24	164	28.7
25 – 29	142	24.8
30 – 34	96	16.8
≥35	87	15.2
Don't know	1	0.2
Marital status (N=572)		
Single	75	13.1
Married	356	62.2
Separated	7	1.2
Widow	5	0.9
Cohabitation	129	22.6
Education (N=572)		
No education	105	18.4
Primary	219	38.3
Secondary	222	38.8
University	26	4.5
Religion (N = 562)		
Catholic	339	60.3
Protestant	173	30.8
Islam	14	2.5
No religion	1	0.2
Non answer	3	0.5
Other	32	5.7
Occupation (N = 567)		
Housewife	198	34.9
Employee	43	7.6
Student	48	8.5
Own business	96	16.9
Farmer	171	30.2
Others	11	1.9
Daily expenses (N=292)		
Mean:	4.6$ (1-25)	
≤1$	49	8.6
2 – 5 $	177	30.9
6 – 10 $	48	8.4
>10 $	18	3.1
Don't know	280	49.0
Permissions (N=572)		
TV	141	24.7
Radio	343	60.0
Motorcycle	134	23.4
Bike	230	40.2
Vehicle	23	4.0
None	113	19.8
Address (N=572)		
Urban	367	64.2
Rural	205	35.8

Table 2: Awareness of fertile period and family planning methods

Methods	N	%
Knowledge on fertile period (N = 571):		
Yes	389	68.1
No	129	22.6
Don't know	53	9.3
Ever heard about FP methods (N = 568)		
Yes	430	75.7
No	138	24.3
Knowledge of FP methods (N=572)		
At least One Method	547	95.6
None	25	4.4
Individual methods awareness (N=572)		
Pills	188	32.9
IUCD	47	8.2
Injectables	148	25.9
Implants	105	18.4
Condom, Male	242	42.3
Condom, Female	59	10.3
Diaphragm	8	1.4
BTL	60	10.5
Vasectomy	4	0.7
Breastfeeding (LAM)	13	2.3
Calendar (fertile period awareness)	321	56.1
Withdrawal	59	10.3
Others	17	3.0
Source of information (N=572)		
Friends	286	50.0
Radio	18	3.1
Newspaper/Book	11	1.9
Nurse	185	32.3
Doctor	15	2.6
Church	14	2.4
School	80	14.0
Relative	26	4.5
TV	9	1.6
Other	31	5.4
Perception on FP usage (N = 570)		
Good to use	456	80.0
Bad to use	77	13.5
Undecided	37	6.5
Reasons if bad to use (N = 76)		
Risk of health consequences	32	42.1
Religion conviction	19	25.0
Risk of Infertility	7	9.2
Can disturb the cycle	3	3.9
It is natural for a woman to give birth	3	3.9
Husband against it	2	2.6

respondents (76%) attested being aware of FP methods. Most of the respondents (96% of all women) knew at least one method. The most commonly known methods was the calendar method (56%).

The most common source of information about FP was from friends (50%). Most women perceived FP as good to use (80%). For the 14% who said it was bad to use, numerous reasons were given, mostly the risk of health consequences (42%) and religious convictions (25%).

When compared with socio-demographic characteristics (Tables 3-4), it was found that teenage mothers had little knowledge about both traditional and modern contraceptive methods. In general, the married, educated, Catholic Christians, housewives, those with a

Table 3: Knowledge of traditional methods by socio-demographic characteristics

Characteristics	Lactation (N, %)	Abstinence (N, %)	Withdrawal (N, %)
Age (Years)			
≤19	-	37 (11.5)	6 (10.2)
20 – 24	3 (23.1)	88 (27.4)	14 (23.7)
25 – 29	4 (30.8)	82 (25.5)	17 (28.8)
30 – 34	5 (38.5)	61 (19.0)	15 (25.4)
≥35	1 (7.7)	53 (16.5)	7 (11.9)
Don't Know	-	-	-
Total	13 (100)	321 (100)	59 (100)
Marital status			
Single	10 (76.9)	35 (10.9)	10 (16.9)
Married	-	214 (66.7)	40 (67.8)
Separated	-	7 (2.2)	-
Widow	-	4 (1.2)	2 (3.4)
Cohabitation	3 (23.1)	61 (19.0)	7 (11.9)
Total	13 (100)	321 (100)	59 (100)
Education			
Illiterate	1 (7.7)	17 (11.5)	1 (1.7)
Primary	3 (23.1)	114 (35.3)	9 (15.3)
Secondary	8 (61.5)	149 (46.4)	34 (57.6)
University	1 (7.7)	21 (6.5)	15 (25.4)
Total	13 (100)	321 (100)	59 (100)
Religion			
Catholic	6 (46.2)	187 (59.0)	28 (49.1)
Protestant	5 (38.5)	98 (30.9)	24 (42.1)
Islam	1 (7.7)	10 (3.2)	4 (7.0)
No Religion	-	-	-
Non Answer	-	1 (0.3)	-
Other	1 (7.7)	21 (6.6)	1 (1.8)
Total	13 (100)	317 (100)	57 (100)
Profession			
Housewife	8 (61.5)	120 (37.5)	22 (37.9)
Employee	1 (7.7)	34 (10.6)	15 (25.9)
Student	1 (7.7)	29 (9.1)	11 (19.0)
Own Business	-	48 (15.0)	4 (6.9)
Farmer	3 (23.1)	80 (25.0)	6 (10.3)
Others	-	9 (2.8)	-
Total	13 (100)	320 (100)	58 (100)
Daily expenses			
≤1$	-	22 (6.9)	2 (3.4)
2 – 5 $	2 (15.4)	98 (30.5)	10 (16.9)
6 – 10 $	1 (7.7)	33 (10.3)	11 (18.6)
>10 $	1 (7.7)	13 (4.0)	5 (8.5)
Do not know	9 (69.2)	155 (48.3)	31 (52.5)
Total	13 (100)	321 (100)	59 (100)
Address			
Urban	6 (46.2)	201 (62.6)	51 (86.4)
Rural	7 (53.8)	120 (37.4)	86 (13.6)
Total	13 (100)	321 (100)	59 (100)

daily expenses of >1 US$ per day and the urban women, had a higher level of knowledge than the rest.

Use of Family Planning and Preferred Methods

Table 5 shows that 44% of respondents had used a form of FP in the past, against 31% prior to the most recent pregnancy and 72% intend to use FP in the future. About

72% used the calendar method in the past and 62% prior to recent pregnancy. For future use, the preferred intended method was once again the calendar method as first choice (28%). In general, traditional methods were more often used than modern methods (in 64% of cases in the past and 65% prior the last pregnancy). However, this tendency changed to modern contraceptive (55%) for future intention to use FP.

The most common reasons for not using modern FP was lack of knowledge of FP (25% in the past and 41% before recent pregnancy). As for the source of FP methods, most of respondents indicated that they did not need to go anywhere to ask since they were using the calendar method (65 and 67%). However, for those who used modern methods, their most common source of provision was from local pharmacies (21% in the past and 23% before the current pregnancy).

Spacing of Pregnancies

As shown in Table 6, the mean number of living children was 3.1 (0 – 12) and 3.5 (1 – 15) for the number of pregnancies. For the majority of women (56%), the inter-pregnancy interval was between 24 – 41 months. If previous pregnancies resulted in a bad outcome, the interval was more likely to be less than 18 months (p < 0.001). For the preferred interval, the majority would have preferred an interval of 60 months or more (42%) with the mean interval of 47.8 (range: 3 – 120) months. For the next pregnancy, 40% wanted an interval of 36 – 41 months, with the mean of 43.9 (12 – 120) months.

Finally, the ideal interval for pregnancy spacing in most women was 36 – 41 months (43%) with a mean of 41.1 (9 – 96) months.

Need for Family Planning

About 299 respondents never intended to get pregnant for the most recent pregnancy, which is a total potential unmet need of about 53%. Specifically, this survey found that about one-fifth of women (21%) had an unmet need for spacing and about one-third had an unmet need for limiting pregnancies (31%). For future desire of another child, a potential unmet need of 16% was noted.

Promotion of Family Planning

In general, FP was not discussed in over half of women (58%), and no method was discussed either, in 59% of them. Further analysis showed that promotion of FP was more likely to happen in health centers than in hospitals (46% vs. 33%, p ≤0.004).

General Comments and Suggestions from Respondents

Concerning women comments about FP services, the most common were: "Teach us how to use FP methods" (30%); "More sensitization is needed" (24%); "Organize

Table 4: Knowledge of modern methods by demographics (N, %)

Characteristics	Pills	Inject	IUCD	Implant	Male Cond	Fem Cond	Diaph	BTL	Vasect
Age (Years)									
≤19	14 (7.4)	8 (5.4)	1 (2.1)	2 (1.9)	34 (14.0)	7 (11.9)	-	1 (1.7)	-
20 – 24	55 (29.3)	37 (25.0)	10 (21.3)	27 (25.7)	71 (29.3)	20 (33.9)	2 (25.0)	14 (23.3)	1 (25.0)
25 – 29	53 (28.2)	45 (30.4)	23 (27.7)	28 (26.7)	65 (26.9)	16 (27.1)	2 (25.0)	17 (28.3)	1 (25.0)
30 – 34	37 (19.7)	27 (18.2)	14 (29.8)	26 (24.8)	40 (16.5)	11 (18.6)	1 (12.5)	14 (23.3)	1 (25.0)
≥35	29 (15.4)	31 (20.9)	9 (19.1)	22 (21.0)	32 (13.2)	5 (8.5)	3 (37.5)	14 (23.3)	-
Don't Know	-	-	-	-	-	-	-	-	1 (25.0)
Marital status									
Single	18 (9.6)	10 (6.8)	1 (2.1)	5 (4.8)	31 (12.8)	8 (13.6)	-	6 (10.0)	1 (25.0)
Married	133 (70.7)	106 (71.6)	39 (83.0)	83 (79.0)	156 (64.5)	40 (67.8)	6 (75.0)	45 (75.0)	3 (75.0)
Separated	4 (2.1)	4 (2.7)	-	2 (1.9)	6 (2.5)	-	1 (12.5)	1 (1.7)	-
Widow	2 (1.1)	2 (1.4)	1 (2.1)	2 (1.9)	2 (0.8)	2 (3.4)	1 (12.5)	1 (1.7)	-
Cohabitation	31 (16.5)	26 (17.6)	6 (12.8)	13 (12.4)	47 (19.4)	9 (15.3)	-	7 (11.7)	-
Education									
Illiterate	13 (6.9)	17 (11.5)	-	6 (5.7)	18 (7.4)	1 (1.7)	1 (12.5)	5 (8.3)	-
Primary	54 (28.7)	48 (32.4)	11 (23.4)	32 (30.5)	83 (34.3)	14 (23.7)	1 (12.5)	21 (35.0)	1 (25.0)
Secondary	98 (52.1)	69 (46.6)	25 (53.2)	51 (48.6)	121 (50.0)	34 (57.6)	4 (50.0)	28 (46.7)	1 (25.0)
University	23 (12.2)	14 (9.5)	11 (23.4)	16 (15.2)	20 (8.3)	10 (16.9)	2 (25.0)	6 (10.0)	2 (50.0)
Religion									
Catholic	100 (54.9)	93 (63.7)	17 (37.0)	55 (55.0)	131 (55.3)	32 (57.1)	5 (62.5)	27 (45.8)	3 (75.0)
Protestant	67 (36.8)	45 (30.8)	22 (47.8)	32 (32.0)	81 (34.2)	24 (42.9)	3 (37.5)	26 (44.1)	1 (25.0)
Islam	8 (4.4)	4 (2.7)	5 (10.9)	4 (4.0)	10 (4.2)	-	-	1 (1.7)	-
Non Answer	-	-	-	-	1 (0.4)	-	-	-	-
Other	7 (3.8)	4 (2.7)	2 (4.3)	9 (5.0)	14 (5.9)	-	-	5 (8.5)	-
Profession									
Housewife	63 (33.7)	44 (29.7)	19 (40.4)	32 (30.5)	101 (41.9)	16 (27.6)	1 (12.5)	30 (50.0)	1 (25.0)
Employee	27 (14.4)	19 (12.8)	12 (25.5)	15 (14.3)	28 (11.6)	11 (19.0)	2 (25.0)	8 (13.3)	-
Student	21 (11.2)	9 (6.1)	4 (8.5)	6 (5.7)	27 (11.2)	14 (24.1)	1 (12.5)	2 (3.3)	2 (50.0)
Own Business	29 (15.5)	26 (17.6)	5 (10.6)	23 (21.9)	41 (17.0)	10 (17.2)	1 (12.5)	5 (8.3)	-
Farmer	44 (23.5)	46 (31.1)	6 (12.8)	26 (24.8)	37 (15.4)	7 (12.1)	2 (50.0)	14 (23.3)	1 (25.0)
Others	3 (1.6)	4 (2.7)	1 (2.1)	3 (2.9)	7 (2.9)	-	1 (12.5)	1 (1,7)	-
Daily Expenses									
≤1$	7 (3.7)	9 (6.1)	1 (2.1)	3 (2.9)	14 (5.8)	1 (1.7)	-	5 (8.3)	-
2 – 5 $	54 (28.7)	43 (29.1)	10 (21.3)	33 (31.4)	67 (27.7)	9 (15.3)	3 (37.5)	20 (33.3)	1 (25.0)
6 – 10 $	25 (13.3)	12 (8.1)	10 (21.3)	16 (15.2)	31 (12.8)	14 (23.7)	-	11 (18.3)	-
>10 $	7 (3.7)	4 (2.7)	4 (8.5)	5 (4.8)	11 (4.5)	3 (5.1)	-	4 (6.7)	-
Do not know	95 (50.5)	80 (54.1)	22 (46.8)	48 (45.7)	119 (49.2)	32 (54.2)	5 (62.5)	20 (33.3)	3 (75.0)
Address									
Urban	134 (71.3)	92 (62.2)	40 (85.1)	80 (76.2)	156 (64.5)	47 (79.7)	4 (50.0)	42 (70.0)	3 (75.0)
Rural	54 (28.7)	56 (37.8)	7 (14.9)	25 (23.8)	86 (35.5)	12 (20.3)	4 (50.0)	18 (30.0)	1 (25.0)
Total	188 (100)	148 (100)	47 (100)	105 (100)	242 (100)	59 (100)	8 (100)	60 (100)	4 (100)

more workshops for us" (15%); "Men involvement is needed; they are an obstacle" (7%); and "Health workers do not talk about it" (3%).

Discussion

The Democratic Republic of Congo has been characterized by a high population growth since the 1970s, currently at 3% per year[2] and is projected to be among the 10 most populous countries in the world by 2050[13]. Since development comes with keeping population growth under control, access to safe, effective and affordable FP services is essential. This study contributes to the evaluation of the FP program in a targeted part of the country.

The study was designed to determine FP KAP among women delivering in the city of Butembo; their preferred FP methods used or to use in the future; their sources of modern contraceptives methods; the degree of unmet need (for nonusers when more children are not wanted, now or ever, or current unintended pregnancy due to non-use); their pattern of (and approaches to) spacing pregnancies; and whether FP is being promoted by health workers.

Various studies worldwide have explored KAP of FP with different results. This study showed that most postpartum women have a very high level of knowledge of at least one method of FP (96%). Despite that knowledge, the survey showed that they had a low level of FP use (44%). These results are similar to the trend found in the 2007 Democratic Republic of Congo DHS[2], although the level of knowledge is higher in this study than that found reported in the DHS (82% and 49% respectively). It may be because this study was exclusively done in a semi-urban city while the DHS

included rural areas where knowledge is likely to be low. Another explanation may be that the city seems to have a

large middle class population as noted by the above poverty line daily expenses and properties owned. It is

Table 5: Use and preferred FP methods

Description	In the Past (N, %)	Before Current Pregnancy (N, %)	Future Use (N, %)
Use of FP	**N = 253 (44.4)**	**N = 173 (30.6)**	**N = 180 (72.0)**
Preferred modern methods	**N = 115 (35.6)**	**N = 68 (35.4)**	**N = 99 (54.7)**
Pills	29 (11.5)	18 (10.4)	5 (2.8)
IUCD	3 (1.2)	1 (0.6)	2 (1.1)
Injectables	10 (4.0)	6 (3.5)	18 (10.0)
Implants	5 (2.0)	4 (2.3)	19 (10.6)
Condom, Male	64 (25.3)	37 (21.4)	9 (5.0)
Condom, Female	3 (1.2)	2 (1.2)	1 (0.6)
Diaphragm	-	-	-
BTL	1 (0.4)	-	45 (25.0)
Vasectomy	-	-	-
Don't Know	-	-	27 (15.0)
Preferred traditional methods	**N = 208 (64.4)**	**N = 124 (64.6)**	**N = 54 (30.2)**
Breastfeeding (LAM)	3 (1.2)	2 (1.2)	-
Calendar (Abstinence)	183 (72.3)	107 (61.8)	50 (27.8)
Withdrawal	22 (8.7)	15 (8.7)	2 (1.1)
Other	-	-	2 (1.1)
Reasons for not using FP method	**N = 317**	**N = 392**	**N = 52**
Wanted a child	54 (17.4)	76 (19.4)	1 (1.9)
Husband opposed	14 (4.4)	22 (5.6)	5 (9.6)
Fear of side effects	45 (14.2)	58 (14.8)	10 (19.2)
Medical reasons	6 (1.9)	8 (2.0)	1 (1.9)
Not available	2 (0.6)	5 (1.3)	-
High Cost	16 (5.0)	22 (5.6)	2 (3.8)
No FP Service	3 (0.9)	3 (0.8)	-
Religious reasons	15 (4.7)	22 (5.6)	4 (7.7)
Others	26 (8.2)	35 (8.9)	19 (36.5)
Don't Know	18 (5.7)	15 (3.8)	1 (1.9)
No FP Knowledge	131 (41.3)	145 (37.0)	13 (25.0)
Where to get the methods	**N = 250**	**N = 173**	**N = 145**
Hospital/Clinic	19 (7.6)	12 (6.9)	86 (59.3)
Pharmacy	53 (21.2)	39 (22.5)	10 (6.9)
NGO	-	1 (0.6)	-
Don't Know	5 (2.0)	4 (2.3)	-
Used/Will Calendar Method	167 (66.8)	112 (64.7)	49 (33.8)
Other	6 (2.4)	5 (2.9)	-

well documented that middle and upper classes tend to have more FP knowledge and use than the poor.

Several studies have also reported the same trends of high awareness, low use of FP, especially in developing countries where high knowledge of FP is not matched by usage[14 - 17]. This is not the case in developed countries where knowledge is almost similar to the usage level[1]. The low use always reflects the existence of some barriers to access of FP service. This study found some prominent barriers, one of them being the lack of women's knowledge of modern methods. The study found a missed opportunity as most women leave the health facilities following a birth without having been told about FP as reported by almost two-thirds of women. They therefore rely on friends as their source of information on FP (50%) as the study showed, which is often unreliable, incorrect, and accompanied by misconceptions.

This is a big problem that must be tackled if FP is to be improved in the city and country. Normally,

sensitization or promotion of FP is largely done by health workers. This is not the case in Butembo as the results show. A likely reason why they do not talk about FP may be that they, themselves, don't have enough knowledge about FP. A survey of health workers conducted in Butembo showed that most health care providers (nurses and doctors) had poor knowledge of FP[18]. This current study supports once again this need and highlights the necessity of a thorough refresher course on FP. Most women had a good perception about FP (80%) along with a strong desire to space their pregnancies in the future (72%), but lack knowledge about it. About 80% of their comments concern sensitization. It is therefore urgent that relevant authorities design and implement FP training programs for health workers which could be followed by outreach activities to educate men and women on FP and how to plan and space pregnancies.

When respondents were asked about their method used or to be used in the future, it was noted that the

calendar or fertility awareness method was most preferred. This is also similar to what the DHS found[2]. The results are also consistent with the findings of studies in other developing countries[19-20]. In developed countries, modern

Table 6: Fertility and spacing of pregnancy

Description	N	%
Live children		
Mean	**3.1 (0 – 12)**	
0	5	0.9
1 – 2	277	48.4
3 – 4	154	26.9
5 – 6	76	13.3
≥7	60	10.5
Number of pregnancies		
Mean	**3.5 (1 – 15)**	
1 – 2	257	44.9
3 – 4	151	26.4
5 – 6	80	14
≥7	84	14.7
Outcome of previous pregnancy (N = 416)		
Baby alive	334	80.3
Baby dead	40	9.6
Abortion (spontaneous or induced)	42	10.1
Interval between last two pregnancies (months) (N = 413)		
Mean	**35.1 (3 – 156)**	
0 - 11	13	3.1
12 – 17	39	9.4
18 – 23	35	8.5
24 – 29	82	19.9
30 – 35	61	14.8
36 – 41	86	20.8
42 – 47	12	2.9
48 – 53	23	5.6
54 – 59	5	1.2
≥60	57	13.8
Waiting period she would have liked (N = 120)		
Mean	**47.8 (3 – 120)**	
0 - 11	1	0.8
12 – 17	4	3.3
18 – 23	-	-
24 – 29	10	8.3
30 – 35	1	1.7
36 – 41	34	28.3
42 – 47	2	1.7
48 – 53	17	14.2
54 – 59	-	-
≥60	50	41.7
Interval she wants for next pregnancy (N = 317)		
Mean	**43.9 (12 – 120)**	
0 - 11	-	-
12 – 17	3	0.9
18 – 23	3	0.9
24 – 29	38	12
30 – 35	3	0.9
36 – 41	127	40.1
42 – 47	4	1.3
48 – 53	43	13.6
54 – 59	2	0.6
≥60	87	27.5
Don't know	4	1.3

Can't get Pregnant (i.e. BTL)	3	0.9

Table 6: Fertility and spacing of pregnancy **(continued…)**

Description	N	%
Optimal waiting time according to women		
Mean	**41.1 (9 – 96)**	
0 - 11	1	0.2
12 – 17	4	0.7
18 – 23	1	0.2
24 – 29	99	17.3
30 – 35	17	3
36 – 41	242	42.5
42 – 47	7	1.2
48 – 53	75	13.1
54 – 59	-	-
≥60	125	21.9

methods are the most widely used[1]. Many factors may explain this low use of modern FP methods in this city. First of all, as the results showed, there is little promotion of modern FP methods by health professionals, which leads to lack of knowledge by most women. Also, these methods may be unavailable at public facilities. This may explain why women seek private commercial pharmacies to get the few methods available. Looking for FP methods at pharmacies is a good indication of a poor public sector FP service delivery system. This constraint must be eliminated by introducing a fully fledged FP service that is free or low cost and offers all modern methods to give women a variety of choices. A needs' assessment of all health facilities in the city may also be needed to understand the full extent of availability of FP methods in each facility, including those not offering maternity services.

This survey found an unmet need of 21% for spacing and 31% for limiting. Moreover, among the women who did not desire to get pregnant again, 16% indicated not wanting to use any FP method. These figures of unmet need are higher than the average for sub-Saharan African countries, which has an unmet need of about 16% for spacing and 9% for limiting[1], although in some West Coast African countries as much as 35% has been reported[21] for the former. Among developed countries, the percentage is very low or even zero[1]. The current 2007 Democratic Republic of Congo DHS reported an unmet need of 19% for spacing, which is almost similar to what this survey found (21%). However, for limiting, the results from this survey were more than six times what the DHS reported (31% vs. 5%). This is an area for future research into possible reasons for this huge difference, such as the DHS sample not being representative enough to pick up such differences.

Concerning fertility and spacing of pregnancies, this study found an average number of living children to be

3.6. Though these results were close to what was found for the capital city, Kinshasa (3.7), it was almost half of what was found during the 2007 DHS which was 6.3 nationwide. Although the Democratic Republic of Congo has one of the highest fertility rates in the world, this lower figure in this semi-urban city may indicate a downward trend due to possible hardship that is not only found in big cities, but also in the country as a whole. Presently, most couples in big cities tend to limit or space their births. In their comments, some women mentioned this hardship as a motivation to learn about FP.

As for the inter-pregnancy interval, this study found a mean interval of 35.1 months, with most women having between 24 – 41 months (56%). These results are within the WHO recommendations of at least 24 months after live birth and 6 months after an abortion[5 – 6]. The DHS also found similar results[2]. In the DHS the mean was 30.5 months and more than half spaced their pregnancies by more than two years and half. Even for future and ideal interval, the women indicated an interval that is within the WHO recommendations. Therefore, it can be said that women in Butembo do accept birth spacing. However, since they typically use a traditional method, which is less effective than modern methods, they should have better access to modern contraceptives to help achieve this goal. Therefore, promotion is deemed necessary.

Study Limitations

Many FP KAP studies look at all women of reproductive age (15-49), which may lead to results being more representative of the greater population. The current study was a small scale survey only on post-partum women delivering in all the maternity units of the city. Therefore, it is acknowledged that these results cannot be generalized as a complete picture of the situation in Butembo, unless a wide household survey is undertaken. However it gives some idea of what may be going on and can help in developing better FP services.

Conclusion

The findings of this survey show that the overall FP knowledge of women in the city of Butembo, Eastern Democratic Republic of Congo, is very high; teenage mothers have little knowledge of FP; women's perception of FP is also very good. However, the use of modern contraception is very low. The calendar method is the most common method used. Several reasons for not using modern FP methods included lack of knowledge, fear of side effects, religious considerations and husband opposition. The most common source of information on FP is from friends, and the most common source of provision local pharmacies. The unmet need for spacing and limiting was high too. However, the spacing of pregnancies met WHO's Healthy Timing and Spacing of Pregnancy recommendations. Finally, promotion of FP was lacking, significantly more so in hospitals than health centres.

Based on these findings, and to help improve FP in the city, integrating and improving FP access in all public health facilities, advocating for the use of modern contraception, financing FP programmes inputs by the ministry of health and International NGO, training of health workers on FP, intensifying promotion to women at each contact is highly recommended.

Acknowledgement

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