

Factors Influencing the Uptake of Long Acting Reversible Contraceptives Among Female Undergraduate Students at the University of Zimbabwe

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Abstract: *Background:* Unwanted pregnancies among university students are a worldwide problem, despite the availability of a wide range of contraceptive methods. These unwanted pregnancies in turn result in depression, suicide and unsafe abortions. Long-Acting Reversible Contraceptives (LARCs) offer a great opportunity to reduce unwanted pregnancies, which often result in unsafe abortions, early and forced marriages. However, uptake of LARCs remains very low among adolescent women in tertiary institutions in Zimbabwe. This study sought to determine the factors influencing the uptake of long-acting reversible contraceptives among female students at University of Zimbabwe. *Method:* A descriptive cross-sectional study was used in this study. Data was collected from randomly selected 120 female students who were sexually active using an online questionnaire. The data was then analysed using descriptive statistics and a chi-square test of association was used to check for association between study variables. *Results:* Of the 120 female students who participated, 99 (82,5%) were aged between 22-25 years, 12 (10%) between 18-21 years and 9 (7.5%) between 26-30 years. Results from the study showed a statistically significant association between year of study and knowledge of contraceptive method ($p=0.003$). A statistically significant association was also observed between year of study and knowledge of implants ($p=0.004$). Age was also found to have a statistically significant association with depo provera use ($p=0.004$) and implants use ($p<0.001$). *Conclusion:* The study revealed a low uptake of long-acting reversible contraceptives among the female undergraduate students at the University of Zimbabwe.

Keywords: Young Women, Long-Acting Reversible Contraceptives, Uptake

1. Introduction

Despite the availability of long-acting reversible contraceptives, the world continues to suffer from unwanted pregnancies among university students. These unwanted pregnancies then result in maternal mortality due to unsafe abortions, suicide and depression. According to a global study that was done in 2014, an estimate of 40% of pregnancies were unwanted and 50% of these resulted in abortion, 13% in miscarriage, and 38% in unintended birth [1]. Unwanted pregnancies can have negative impacts on the

physical and mental health of the mothers as well as their family [2]. According to a study that was done in Asian countries, the most severe effects of unwanted pregnancy included unsafe abortion, maternal death, starvation, mental illness, and vertical HIV transmission to children. These had detrimental effects on women's quality of life, raised the financial burden on families, and made women more stressed out, which increased maternal and neonatal morbidity and mortality [3].

LARCs have been the recent innovation to address the problem of unintended and unwanted pregnancies in a bid to

ensure that young women complete their education and improve their quality of life. LARCs primary traits are their high level of single-intervention contraceptive effectiveness and their extended duration of use. Increasing demand and access to long-acting reversible contraceptive methods that do not rely on daily adherence is a global priority.

A study that was done in South-Eastern America concluded that college women's perspectives toward LARCs have received relatively little attention, despite research on its awareness, attitudes, and use among young women in the United States [4]. LARCs were disliked by some participants because they thought they were unnatural, whilst others felt secure because of their long-term efficacy [4]. Much has been done in accomplishing this goal, but the long-acting reversible contraceptives are still not universally available in sub-Saharan Africa. There has been a general rising trend indicating that LARC adoption has gradually increased among users in most SSA sub-regions. For instance, LARC uptake increased from 0.46% in Malawi in 2004 to 9.76% in 2016, and from 1.04% in Zimbabwe in 2006 to 8.51% in 2015 [5].

LARCs are highly dependable and effective contraceptive treatments that don't rely on user compliance, but just 39% of respondents said they had ever heard of a LARC method, and only 2% reported using one currently (1% for injection, 0% for implant, and 1% for IUD, respectively) [6]. Prior studies have demonstrated that raising awareness of LARCs among clinicians and young women may result in the proper and consistent initiation and use of LARCs over time.

In addition to promoting LARCs and dual protection at all service delivery points, such as HIV and STI services, maternal health clinics, and gynaecological clinics, this would entail improving the counselling skills of providers to address fears and misinformation. Peer education and outreach programs aimed at this population would also benefit from this [6].

However, several factors have been attributed to low uptake of LARCs by adolescent and young women. Socio-demographic factors have been reported to influence uptake of LARC and other modern contraceptives. According to a study that was done in Ethiopia, unwanted pregnancies were more likely to occur in those with low socioeconomic status, inadequate education, limited access to health care, unmarried status, peer pressure, sexual violence, and poor family planning. Additionally, 33.1, 11.8, and 8% of women with unwanted pregnancies lived alone, had five or more children, and had no formal education, respectively [7]. Studies that were done in China showed that only 39% of the 310 sexually active adolescents who participated in the poll on sexual and reproductive health had heard of any long-acting reversible contraception (implant, injection or IUD). Even though 98% of women said they didn't want to get pregnant, only 43% said they consistently used condoms and 28% said they were currently using another type of contemporary contraception [6].

Studies that were done in sub-Saharan Africa showed that the percentage of unwanted pregnancies among women who

identified as Clerics (religious leader) was lowest (18.3%). Only 16.9% of Muslim women were pregnant unintentionally, compared to 36.5% of Christian women [8]. The culture and community in which the young women live also play important roles in their decision to engage in behaviours that increase their risk of unwanted pregnancies [9]. Bandura's Social Learning Theory, which emphasizes the mutual interaction of cognitive, behavioural, and environmental determinants of human behaviour, tends support to this. It holds that people pick up new behaviours by observing others in social situations, absorbing, and then imitating those behaviors [9]. Studies in sub-Saharan Africa showed that the younger age group, 15-24 years had lower proportion of use of LARC (1.34%) compared to the older age groups 25-34 and 35+ (4.03% and 2.88% respectively). Just 1.0% of women who had no education were using LARC, compared to 5.3% among those with higher education [5]. The LARC approach was hardly ever adopted by unemployed and low-income women for apparent reasons (such as a lack of funds or resources). Numerous studies have shown that these types of women have a high unmet need for contraception [5]. In a comparative study that was done between University of Zimbabwe and Chinhoyi University of Technology female students, 97% of respondents aged 30-34 years were more likely to use modern contraceptives, when compared to respondents aged 20-24 years [16]. According to a study that was done in sub-Saharan Africa, women with primary education levels experienced about 37.3% of unwanted pregnancies, whereas women with higher education levels reported the lowest prevalence of 19.0% [8]. Women with middle-class and higher wealth indices experienced about three out of ten (30.7%) unwanted pregnancies. Women who had one birth reported 24.9% unwanted pregnancies, compared to women who had four or more births who reported 33.6% [8]. A study that was done comparing University of Zimbabwe and Chinhoyi University also revealed that another barrier to the general use of contemporary contraceptives was religion [16].

Structural factors have also been implicated as factors influencing the uptake of LARC. Structural factors are those factors associated with the location where the medical care is provided and the tools that are used. Recent research in sub-Saharan Africa has discovered significant rates of unmet contraceptive need among women, which may help to explain the high rates of unwanted pregnancies. Theorists explain the high rates of unmet demand as being related to a number of contraceptive barriers, including stigma, distance to healthcare facilities, and expense, particularly for young university students [9]. In a study that was done at Hawassa, the student clinic was found to have privacy barriers and lack of family planning services [11]. Inadequate health care services, a lack of access to contraceptives, and a lack of awareness about their usage have been linked with unwanted pregnancies [3]. LARC hasn't always been widely available in Zimbabwe [6]. A sensitivity study was performed among the facilities that reported providing LARC, however given the country's rapid expansion of LARC from different

implementing partners, this may not be an accurate representation of LARC supply [6].

Access to contraceptives remains a problem due to the fact that premarital sex is frowned upon in society and obtaining contraceptives from public health institutions constitutes a public admission of having sex [10]. Enhanced health providers' knowledge, attitudes, and counselling abilities as well as a critical missed opportunity to improve the delivery of sexual and reproductive health to this population [6].

Lack of knowledge and understanding of the method can also be a barrier to use even when the long-acting reversible contraceptives are available [6].

According to a study that was done in Zimbabwe in 2016, Harare had the highest rate of unwanted pregnancies (74.9%) [12]. This study showed that 40% of pregnancies were unwanted and of these, 25% ended in abortion [12]. In developing countries, most unwanted pregnancies are a result of not using any type of modern contraceptives [7].

A study at the University of Zimbabwe and Chinhoyi University of Technology on practices regarding modern contraceptives by college students reported that most of the students use condoms and emergency pills [16]. However, there is a steady increase in unwanted pregnancies and unsafe abortions (sometimes leading to death) among female students at the University of Zimbabwe.

No study has been done to assess the use of LARCs among the students. Unwanted pregnancies are associated with many negative outcomes for women and their infants including reduced use of prenatal health services, decreased economic prospect, increased maternal morbidity and unsafe abortions [6]. A comparative study that was done at University of Zimbabwe and Chinhoyi University, male condoms and over-the-counter emergency pills were the two most often utilized contraceptives [16]. LARC hasn't always been widely available in Zimbabwe.

However, the Ministry of Health and Child Care, through a range of partners, were recently funded to increase the supply of LARCs throughout the country as a population-level family planning strategy [6]. Since long-acting reversible contraceptive (LARC) methods are more successful than other methods and are even at par with permanent contraception in terms of effectiveness, offering them is a great way to prevent or at least reduce unwanted pregnancies [13]. Young nulliparous women are now advised to use long-acting reversible contraceptives (LARC) to avoid unexpected pregnancies.

This study was conducted to determine factors that influence that determine uptake of LARCs by young female students at the University of Zimbabwe.

2. Methods

Study design: This was a descriptive cross-sectional study.

Study setting: We conducted this study at the University of Zimbabwe. This is the biggest university in Zimbabwe with over 18 000 students and about 60% of these are female students.

Study population: Female undergraduate students at the

University of Zimbabwe.

Sampling: Participants for this study were drawn through simple random sampling. Cochran's Formula was used to calculate sample size and a sample size of 120 was obtained. Our sampling frame was the list of all accessible students who met the inclusion criteria obtained from the university students' affairs department. Female undergraduate students randomly picked cards from an elevated bowl. The cards were labelled yes or no'. All those who picked yes were recruited to participate in the study until the sample size was reached.

Inclusion criteria: All sexually active adolescent and young women who were undergraduate students at the University of Zimbabwe in 2023.

Exclusion criteria: Female undergraduate students with mental illness and those who were severely ill.

2.1. Data Collection Tools

We used a structured online questionnaire to collect data from sampled participants. The questionnaire covered socio-demographic information, questions on knowledge levels and uptake of LARCs. It also had questions to assess the quality of service provision. The administered questions were developed based on a literature review and existing questionnaires. Before data collection, a pre-test was conducted with a small sample of female undergraduate students to ensure clarity, appropriateness, and completeness. The pre-test participants did not participate in the final study.

2.2. Data Collection Procedures

The list of all female undergraduate students was obtained from the student affairs department and the 120 female students were randomly selected. Those who were selected received an email which explained the student and filled in consent forms electronically before proceeding to access the link to the electronic questionnaire. To protect participants, we ensured confidentiality and explained participation.

Study variables (Measures)

Dependent variable to be measured.

Uptake of LARCs: We measured uptake of Intra Uterine Devices (IUD); Depo-provera and Implants.

Independent variables were,

- 1) *Socioeconomic status:* These variable measures the socioeconomic position of the participant's household, which includes factors such as income, education level, occupation, and housing conditions.
- 2) *Demographic factors:* These factors include age, religion and gender.
- 3) *Quality of healthcare services:* Availability, affordability, treatment by service providers, knowledge levels of LARCs.

2.3. Data Management

After collection, the data was cleaned to remove errors and missing values. The data was securely stored in electronic format and secured through password, with backup copies

made to ensure it was not lost or corrupted while the hard copies were kept in a secured lock and key box.

2.4. Data Analysis Procedure

We cleaned data in Excel before exporting it to Stata 15 for analysis. Descriptive statistics were used to summarize all the variables. The Continuous variables were summarized as means \pm standard deviations, while categorical variables were summarized as frequencies.

To determine the association between predictor variables (socioeconomic status, demographic factors and quality of healthcare) and the outcome variable (uptake of LARCs), we used the chi-square test; otherwise, Fisher's exact tests.

2.5. Ethical Considerations

This study received ethical approval from the University of Zimbabwe IRB namely JREC and the approval number is JREC/29/2023. In this study, written informed consent was obtained electronically from all participants after a full explanation of the study. The type of data to be collected and the possible risks and benefits of the study were explained to all participants. Anonymity and confidentiality were maintained through coding.

Beneficence was enhanced through avoiding any form of emotional, physical, or social harm to the participants. All eligible students who were available during the days of data collection had the choice to participate until the desired number of participants was reached and all had an equal opportunity to participate. In addition to that, there were no consequences to those refused to participate.

3. Results

This research was conducted to determine factors that influence the uptake of long-acting reversible contraceptives (LARCs) among female students at the University of Zimbabwe. Data was collected from female students at the University of Zimbabwe who met the inclusion criteria.

3.1. Socio-Demographic Data

A total of 120 students participated in the study. The majority, 99 (82.5%) were aged between 22-25 years, and most of these 76 (63.3%) were in the fourth year. The majority of the participants were Christians 117 (97.5%) and were never married 111 (95.0%). Table 1, below summarises the socio-demographic results.

Table 1. Socio-demographic results.

Variable	Description	Proportion (%)
Age (years)	18-21	12 (10.0)
	22-25	99 (82.5)
	26-30	9 (7.5)
Year of study	First year	3 (2.5)
	Second year	18 (15.0)
	Third year	23 (19.2)
	Fourth year	76 (63.3)
	Fifth year	0 (0.0)

Variable	Description	Proportion (%)
Religion	Christianity	117 (97.5)
	Muslim	0 (0.0)
	ATR	3 (2.5)
	Other	0 (0.0)
Marital status	Never Married	114 (95.0)
	Married	6 (5.0)
Sexual status	Sexually active	120 (100.0)
	Not sexually active	0 (0.0)

3.2. Uptake of LARCs

Among the participants, 63.3% (76 participants) reported having heard about the intrauterine device and 36.7% (44 participants) said they have never heard about it. On the depo provera, most of the participants (108 participants which is 90%) said they have heard about it and only a few (12 participants which is 10%) said they have never heard about it. While 97 participants (80.8%) said they have heard about implants, 23 participants (19.2%) said they have never heard about them. Only 3 participants (2.5%) reported having used the intrauterine devices and the rest 117 participants (97.5%) said they have never used them. Just like the intrauterine devices, only 3 participants (2.5%) said they have used the depo provera and the rest 117 participants (97.5%) said they have never used it. Nine participants (7.5%) said they have used implants and 111 participants (92.5%) said they have never used them. Most of the participants, 73 (60.8%) said there are clinics that provide intrauterine devices close to where they stay and 47 (39.2%) said there are no clinics that provide them close to where they stay. Ninety-nine of the participants (82.5%) said they have clinics that provide depo provera close to where they stay and 21 participants (17.5%) said they don't have. There were 79 participants (65.8%) who said that they have clinics that provide implants close to where they stay and 41 participants (34.2%) said they don't have them. Of the 120 participants, 61 (50.8%) said that healthcare workers at their local clinics show discrimination when they seek contraceptives as students and 59 (49.2) said the healthcare workers do not show discrimination. Only a few of the participants (26 which is 22%) said that intrauterine devices are affordable to them and the rest 94 participants (78%) said they are not affordable. Most of the participants (64 which is 53.3%) said depo provera is affordable to them and 56 (46.7%) said it is not affordable. While 35 participants (29.2%) said implants are affordable to them, 85 participants (70.8%) said they are not affordable. Seventy participants (58.3%) said their religion supports the use of intrauterine devices, depo provera and implants and 50 participants (41.7%) said their religions do not support them. Sixty-three (52.5%) of the participants said they do not use intrauterine devices, implants and depo provera because they believe that fertility does not go back to normal after using them and 57 participants (47.5%) said they do not believe that. Most of the participants (108, which is 90%) said they think that getting an implant is painful and 12 (10%) said they do not think so. While 42 participants (35%) said they do not use intrauterine devices because they think they cause abortion, 78 participants (65%) said this is not their reason

for not using intrauterine devices. There were 30 participants (25%) who reported that they do not use intrauterine devices because they think they will not fit in their uteruses and 90 participants (75%) said this is not their reason for not using them. The belief that intrauterine devices can get stuck in the uterus was reported to be the reason for not using them by 39

participants (32.5%) and 81 participants (67.5%) said this was not their reason. Fifty-four participants (45%) said they believe that implants and intrauterine devices cause cancer that's why they do not use them and 66 participants (55%) said they do not believe that.

Table 2. Uptake of LARCs (N=120).

Question	Response	Proportion (%)
Have you ever heard about intrauterine devices?	Yes	76 (63.3)
	No	44 (36.7)
Have you ever heard about depo provera?	Yes	108 (90)
	No	12 (10)
Have you ever heard about implants?	Yes	97 (80.8)
	No	23 (19.2)
Have you ever used intrauterine device?	Yes	3 (2.5)
	No	117 (97.5)
Have you ever used the depo provera?	Yes	3 (2.5)
	No	117 (97.5)
Have you ever used implants?	Yes	9 (7.5)
	No	111 (92.5)
Are there any clinics that provide intrauterine devices close to where you stay?	Yes	73 (60.8)
	No	47 (39.2)
Are there any clinics that provide depo provera close to where you stay?	Yes	99 (82.5)
	No	21 (17.5)
Are there any clinics that provide implants close to where you stay?	Yes	79 (65.8)
	No	41 (49.2)
Do healthcare workers at your local clinic show discrimination when you seek contraceptives as a student?	Yes	61 (50.8)
	No	59 (49.2)
Is an intrauterine device affordable to you as a student?	Yes	26 (22.0)
	No	94 (78.0)
Is depo provera affordable to you as a student?	Yes	64 (53.3)
	No	56 (46.7)
Are implants affordable to you as a student?	Yes	35 (29.2)
	No	85 (70.8)
Does your religion support use of intrauterine devices, implants and depo provera?	Yes	70 (58.3)
	No	50 (41.7)
Do you believe that fertility does not go back to normal after using long-acting reversible contraceptives?	Yes	63 (52.5)
	No	57 (47.5)
Do you believe that getting an implant is painful?	Yes	12 (10.0)
	No	108 (90.0)
Do you believe that intrauterine devices cause abortion?	Yes	42 (35.0)
	No	78 (65.0)
Do you believe that intrauterine devices do not fit in some people's uteruses?	Yes	30 (25.0)
	No	90 (75.0)
Do you believe that intrauterine devices can get stuck in the uterus?	Yes	39 (32.5)
	No	81 (67.5)
Do you believe that implants and intrauterine devices cause cancer?	Yes	54 (45.0)
	No	66 (55.0)

3.3. Association Between Socio-Demographic Data and Knowledge of LARCs

Table 3 shows results on the association between socio-demographic characteristics of the participants and knowledge of LARCs. The results show that there was a statistically significant association between IUD knowledge

and year of study ($p=0.003$). There was no significant association between Depo-provera use and socio-demographic variables. The year of study was significantly associated with the knowledge level of LARCs ($p=0.004$). The results show a statistically significant association between implants knowledge and year of study ($p=0.004$).

Table 3. Association between socio-demographic data and knowledge of LARCs.

Variable	IUD Knowledge		Chi-square p-value	Depo-provera		Chi-square p-value	Implant Knowledge		Chi-square p-value
	Yes	No		Yes	No		Yes	No	
Age in years									
18-21	4	8	0.052	10	2	0.532	7	5	0.064
22-25	69	33		92	10		84	18	

Variable	IUD Knowledge		Chi-square p-value	Depo-provera		Chi-square p-value	Implant Knowledge		Chi-square p-value
	Yes	No		Yes	No		Yes	No	
26-30	3	3		6	0		6	0	
Year of study									
1 st year	1	2		2	1		0	3	
2 nd year	7	11	0.003*	14	4	0.060	14	4	0.004*
3 rd year	21	2		23	0		19	4	
4 th year	47	29		69	7		64	12	
Religion									
Christianity	73	44	0.182	105	12	0.559	94	23	0.393
ATR	3	0		3	0		3	0	
Marital status									
Single	71	43	0.297	103	11	0.577	91	23	0.221
Married	5	1		5	1		6	0	

The asterisk* represents statistically significant associations

3.4. Association Between Socio-Demographic Data and LARCs Use

Table 4 below presents results on the association between socio-demographic characteristics and the use of LARCs.

The results show that there was a statistically significant association between depo provera use and age (p=0.004) and between use of implants and age (p<0.0001), religion (p<0.0001) and marital status (p<0.0001).

Table 4. Association between socio-demographic data and use of LARCs.

Variable	IUD use		Chi-square p-value	Depo-provera use		Chi-square p-value	Implant use		Chi-square p-value
	Yes	No		Yes	No		Yes	No	
Age in years									
18-21	0	12		2	10		0	12	
22-25	3	99	0.762	1	101	0.004*	5	97	<0.001*
26-30	0	6		0	6		4	2	
Year of study									
1 st year	0	3		0	3		0	3	
2 nd year	0	18		2	16		1	17	
3 rd year	0	23	0.619	0	23	0.087	3	20	0.693
4 th year	3	76		1	75		5	71	
Religion									
Christianity	3	114		3	114		6	111	
ATR	0	3	0.779	0	3	0.779	3	0	<0.001*
Marital status									
Single	3	111		3	111		6	108	
Married	0	6	0.687	0	6	0.687	3	3	<0.001*

The asterisk* represents statistically significant associations

3.5. Association Between Socio-Demographic Variables and Beliefs on LARCs

Table 5 presents results on the association between socio-demographic characteristics and the beliefs on LARCs. The results show that there is a statistically significant association between age and the belief that fertility does not go back to normal (p=0.001).

Table 5. Association between socio-demographic variables and beliefs on LARCs.

Variable	Belief that fertility does not go back to normal		Chi-square p-value
	Yes	No	
Age			
18-21	5	7	
22-25	53	49	0.239
26-30	5	1	
Year of study			
1 st year	0	3	
2 nd year	12	6	
3 rd year	5	18	0.001*
4 th year	46	30	
Religion			
Christianity	63	54	0.065
ATR	0	3	

Variable	Belief that fertility does not go back to normal		Chi-square p-value
	Yes	No	
Marital status			
Single	60	54	0.900
Married	3	3	
Variable	Belief that getting an implant is painful		Chi-square p-value
	Yes	No	
Implants use			
Yes	0	9	0.298
No	12	99	
Variable	IUD cause abortion		Chi-square p-value
	Yes	No	
Depo provera use			
Yes	2	1	0.244
No	40	77	
Variable	IUD may not fit		Chi-square p-value
	Yes	No	
IUD use			
Yes	2	1	0.091
No	28	89	
Variable	Belief that implants and IUD cause cancer		Chi-square p-value
	Yes	No	
Implants use			
Yes	2	7	0.153
No	52	59	
Depo provera use			
Yes	2	1	0.445
No	52	65	
Variable	Does your religion support contraceptive use		Chi-square p-value
	Yes	No	
Used IUD			
Yes	3	0	0.138
No	67	50	
Used depo provera			
Yes	3	0	0.138
No	67	50	
Used implants			
Yes	0	9	<0.0001*
No	70	41	

3.6. Association Between LARCs Knowledge and Uptake

Table 6 presents results on the association between contraceptive knowledge and the availability of clinics that provide them close. The results show a statistically

significant association between availability of close clinics that provide the contraceptives and IUD knowledge (0.000), depo provera knowledge (0.020) and implants knowledge (0.000).

Table 6 Association between contraceptive knowledge and availability of clinics that provide them close.

Variable	Utilisation of LARCs		Chi-square p-value
	Yes	No	
IUD knowledge			
Yes	56	20	p=0.000*
No	17	27	
Depo provera knowledge			
Yes	92	16	p=0.020*
No	7	5	
Implants knowledge			
Yes	71	26	P<0.0001*
No	8	5	

3.7. Association Between Knowledge of LARCs and Service Provision

Table 7 presents results on the association between contraceptive knowledge and service provision. There was no statistically significant association between knowledge of

LARCs and perception of discrimination by health workers as a barrier to accessing LARCs. However, there was a statistically significant association between perceived affordability and IUD use ($p=0.001$) and implants use ($p<0.0001$).

Table 7. Association between knowledge on LARCs and service provision.

Variable	Do healthcare workers discriminate		Chi-square p-value
	Yes	No	
Depo provera knowledge			
Yes	53	55	0.247
No	8	4	
Implants knowledge			
Yes	53	44	0.087
No	8	15	

Variable	Is the contraceptive affordable		Chi-square p-value
	Yes	No	
IUD use			
Yes	3	0	0.001*
No	23	94	
Depo provera use			
Yes	2	1	0.639
No	62	55	
Implants use			
Yes	9	0	<0.0001*
No	26	85	

4. Discussion

The purpose of this study was to determine the factors influencing the uptake of long-acting reversible contraceptives among female students at the University of Zimbabwe.

Results from the study revealed that the majority of the participants were aged between 22-25 years of age and 95% of the participants were single. There was a statistically significant association between year of study and knowledge of intrauterine devices and implants ($p=0.003$ and $p=0.004$ respectively) and the majority who knew the device were in the final year. These results were similar to a study that was done in Sub Saharan Africa which showed that level of education was associated with the knowledge of long-acting reversible contraceptives among young women [5]. These findings were also in line with a study that was done among 26 Sub Saharan African countries which showed that chances of using LARCs were higher among women with higher education than those with lower education. This was because those with higher education had better access to information about advantages and side effects of LARCs and therefore they would be aware of the myths that often cause people not to use the LARCs [8]. The results also showed that age had a statistically significant association with depo provera ($p=0.004$) and implants use ($p=0.000$). Most of the people who used depo provera were between 18-21 years. There was also a statistically significant association between religion and use of implants. This finding is similar to a comparative

study that was done between the University of Zimbabwe and Chinhoyi University of Technology which showed that culture and religion were the main reasons for female tertiary students not to use LARCs. A statistically significant association was found between marital status and use of implants. Of the nine students who reported having used implants, 66.67% were married and 33.33% were single. These findings collaborate with other studies that were done which showed that marital status and parity were the main influencers of LARC demand and uptake.

Factors Influencing the Uptake of LARCs

The study showed a statistically significant association between year of study and the belief that fertility does not go back to normal after using long-acting reversible contraceptives. Among the 63 students who believed in that, 73% were fourth year students, 7.94% were third year students and 19.05% were second year students. A statistically significant relationship between intrauterine device knowledge availability of clinics that provide them close was also noted. There were 76 students who said they knew about intrauterine devices and among them, 73.68% had clinics that provide the intrauterine devices close to where they stay. The results showed a statistically significant association between depo provera knowledge and the availability of clinics that provide them close. Those who had clinics providing depo provera close to where they stay were more likely to know them than those who didn't. Knowledge of implants was found to have a statistically significant association with the availability of clinics that provide them close. The study findings indicated that there was a

statistically significant association between intrauterine device use and its affordability. Out of the 94 students who reported that intrauterine devices were not affordable, none of them reported ever using them. This shows that those who did not use them, it might have been because they were expensive to them. The results also showed a statistically significant association between implant use and affordability. Among the 120 students who participated in the study, 85 reported that implants were not affordable to them and among the 85, none had used the implants. These findings were consistent with a study that was done in Australia which revealed that even though LARCs are cost effective, their initial cost is a barrier for most young women [14].

5. Recommendations

- 1) More research to be done, preferably qualitative research with open ended questions in order to explore what the students think about long-acting reversible contraceptive which could not have been mentioned in this research.
- 2) Engagement of men who are sexually active into programs that give education about long-acting reversible contraceptives so that they decide together with their partners when choosing contraceptives to use.
- 3) Government to provide free long-acting reversible contraceptives for students in tertiary institutions in order to increase accessibility and uptake.
- 4) Providing women with all the information they need to know about LARCs on social media platforms.
- 5) Awareness programs on the advantage of using long-acting reversible contraceptives and their effectiveness. These programs can also address the different myths about the side effects of using long-acting reversible contraceptives.
- 6) Social support groups to be created, where those who have successfully used long-acting reversible contraceptives can share their experiences.
- 7) Further research on why there is still low use of LARCs despite the high level of knowledge about them.

6. Limitations

The participants were selected in a ratio that did not represent the different age groups equally and this potentially created biased results as age groups were either under or over represented. Another limitation is that the study was based at the University of Zimbabwe only, therefore it might not be possible to generalise the study findings to the entire young female students in the country.

7. Conclusion

The study revealed that the uptake of LARCs was low among the female students at the University of Zimbabwe. Findings from this study showed that only 12.5% of the participants had ever used LARCS, with 2.5% having used

IUDs, 2.5% depo provera and 7.5% implants. This was consistent with another study that was done in Kenya which showed a lower LARC uptake than short-term contraceptives among women of reproductive age, with most of the few who used LARCs opting for implants [15]. Strategies that increase LARCs uptake may effectively reduce the high prevalence of unwanted pregnancies.

Author Contributions

Conceptualization, Methodology, Writing – Original Draft Preparation, TM; Methodology, Supervision, and Writing – Original Draft Preparation, MM; Writing – Original Draft Preparation, Writing – Review and Editing, JJK.

Ethics Approval and Consent to Participate

This study received ethical approval from the University of Zimbabwe IRB namely JREC and the approval number is JREC/29/2023.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

References

- [1] Sedgh, G., Singh, S., & Hussain, R. (2014). Intended and Unintended Pregnancies Worldwide in 2012 and Recent Trends. *Studies in Family Planning*, 45(3), 301–314. <https://doi.org/10.1111/j.1728-4465.2014.00393.x>
- [2] Hajizadeh, M., & Nghiem, S. (2020). Does unwanted pregnancy lead to adverse health and healthcare utilization for mother and child? Evidence from low- and middle-income countries. *International Journal of Public Health*, 65(4), 457–468. <https://doi.org/10.1007/s00038-020-01358-7>
- [3] Sarder, A., Islam, S. M. S., Maniruzzaman, Talukder, A., & Ahammed, B. (2021). Prevalence of unintended pregnancy and its associated factors: Evidence from six south Asian countries. *PLOS ONE*, 16(2), e0245923. <https://doi.org/10.1371/journal.pone.0245923>
- [4] Moore, L., Lavoie, A., Bourgeois, G., & Lapointe, J. (2015). Donabedian's structure-process-outcome quality of care model: Validation in an integrated trauma system. *Journal of Trauma and Acute Care Surgery*, 78(6), 1168–1175. <https://doi.org/10.1097/TA.0000000000000663>
- [5] Adedini, S. A., Omisakin, O. A., & Somefun, O. D. (2019a). Trends, patterns and determinants of long-acting reversible methods of contraception among women in sub-Saharan Africa. *PLOS ONE*, 14(6), e0217574. <https://doi.org/10.1371/journal.pone.0217574>
- [6] Nance, N., Ralph, L., Padian, N., Cowan, F., Buzdugan, R., Mushavi, A., Mahomva, A., & McCoy, S. I. (2018). Unintended pregnancy and subsequent postpartum long-acting reversible contraceptive use in Zimbabwe. *BMC Women's Health*, 18(1), 193. <https://doi.org/10.1186/s12905-018-0668-z>

- [7] Kassahun, E. A., Zeleke, L. B., Dessie, A. A., Gersa, B. G., Oumer, H. I., Derseh, H. A., Arage, M. W., & Azeze, G. G. (2019). Factors associated with unintended pregnancy among women attending antenatal care in Maichew Town, Northern Ethiopia, 2017. *BMC Research Notes*, *12*(1), 381. <https://doi.org/10.1186/s13104-019-4419-5>
- [8] Ameyaw, E. K., Budu, E., Sambah, F., Baatiema, L., Appiah, F., Seidu, A.-A., & Ahinkorah, B. O. (2019). Prevalence and determinants of unintended pregnancy in sub-Saharan Africa: A multi-country analysis of demographic and health surveys. *PLOS ONE*, *14*(8), e0220970. <https://doi.org/10.1371/journal.pone.0220970>
- [9] Ahinkorah, B. O. (2020). Individual and contextual factors associated with mistimed and unwanted pregnancies among adolescent girls and young women in selected high fertility countries in sub-Saharan Africa: A multilevel mixed effects analysis. *PLOS ONE*, *15*(10), e0241050. <https://doi.org/10.1371/journal.pone.0241050>
- [10] Voyce, J., Gouveia, M. J. B., Medinas, M. A., Santos, A. S., & Ferreira, R. F. (2015). A Donabedian Model of the Quality of Nursing Care From Nurses' Perspectives in a Portuguese Hospital: A Pilot Study. *Journal of Nursing Measurement*, *23*(3), 474–484. <https://doi.org/10.1891/1061-3749.23.3.474>
- [11] Fikadu Geda, Y., Anmut Tirfe, W., & Mesele Gessese, M. (2020). Induced Abortion and Its Predictors Among Hawassa University Female Students. *International Journal of Immunology*, *8*(3), 53. <https://doi.org/10.11648/j.iji.20200803.13>
- [12] Sully, E. A., Madziyire, M. G., Riley, T., Moore, A. M., Crowell, M., Nyandoro, M. T., Madzima, B., & Chipato, T. (2019). Correction: Abortion in Zimbabwe: A national study of the incidence of induced abortion, unintended pregnancy and post-abortion care in 2016. *PLOS ONE*, *14*(5), e0217735. <https://doi.org/10.1371/journal.pone.0217735>
- [13] Bolarinwa, O. A., Nwagbara, U. I., Okyere, J., Ahinkorah, B. O., Seidu, A.-A., Ameyaw, E. K., & Igharo, V. (2022). Prevalence and predictors of long-acting reversible contraceptive use among sexually active women in 26 sub-Saharan African countries. *International Health*, *14*(5), 492–500. <https://doi.org/10.1093/inthealth/ihab053>
- [14] Mazza, D., Bateson, D., Frearson, M., Goldstone, P., Kovacs, G., & Baber, R. (2017). Current barriers and potential strategies to increase the use of long-acting reversible contraception (LARC) to reduce the rate of unintended pregnancies in Australia: An expert roundtable discussion. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, *57*(2), 206–212. <https://doi.org/10.1111/ajo.12587>
- [15] Kikula, A. I., Moshiro, C., Makoko, N., Park, E., & Pembe, A. B. (2022). Low Use of Long-Acting Reversible Contraceptives in Tanzania: Evidence from the Tanzania Demographic and Health Survey. *International Journal of Environmental Research and Public Health*, *19*(7), 4206. <https://doi.org/10.3390/ijerph19074206>
- [16] Toweka, A., Moyo, S., Mhloyi, M., Makochehanwa, A., & Mandizadza, E. (2021a). Practices regarding modern contraceptive use among female students. A comparative study between the university of Zimbabwe and Chinhoyi university of technology.