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Teresinha M. Q da Silva Sarmento , Martinus Nahak , Domingos Soares ^{*} , Valente Silva , Avelino Guterres Correia

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Article

The Influence of the Level of Knowledge and Attitudes of Acceptors on the Low Use of Intra Uterine Contraception Devices in the Comoro Health Center, Dili, Timor-Leste, 2024

Teresinha M. Q da Silva Sarmento ¹, Martinus Nahak ¹, Domingos Soares ^{2,3,4,*} and Valente da Silva ^{3,5}, Avelino Guterres Correia ^{1,6}

¹ Universidade da Paz (UNPAZ), Dili, Timor-Leste

² Instituto Nacional de Saúde Pública Timor-Leste

³ DAJI's Research and Development Networking, Dili, Timor-Leste

⁴ Instituto Superior Cristal, Dili, Timor-Leste

⁵ Daslo Research and Development, Dili, Timor-Leste

⁶ Ministry of Health, Timor-Leste

Abstract: Introduction: Intrauterine Contraceptive Devices (IUD) is a contraceptive device that inserted into the uterus. In Municipality Dili, IUD use is 5.6% and in Community Health Center (CHC) Comoro about 3.4. The aim of this study was to determine the influence of acceptor knowledge and attitudes on the low practice of using IUD at Comoro Community Health Center. **Method:** The quantitative design-cross sectional approach was used in the study. Total population about 2881 family planning acceptors who did not use the IUD contraceptive method visited CHC Comoro. About 106 respondents was included, used accidental sampling technique. Data collected use questionnaire and analyzing used univariate and bivariate. **Result:** The multiple linear regression test on the Knowledge are $0.016 < 0.05$, which means that there is a partially significant influence of Knowledge on practice and attitude is $0.003 < 0.05$, which means that there is a partially significant influence between attitudes on practice. The correlation value on the F test was $0.00 < 0.05$, meaning that there was a significant simultaneous influence between Knowledge, attitude on practice. **Conclusion:** There is an influence of acceptor's Knowledge and attitude on the practice of IUD contraceptive use partially in partially and simultaneous.

Keywords: Knowledge; Attitude; practice; IUD Contraception

Introduction

The intrauterine device (IUD) contraceptive method is a good and comfortable family planning method, and its effectiveness is very high, however many acceptors do not choose to use this method, one of the reasons is due to a lack of information or knowledge about this contraceptive device. Low education and a weak economy. (Thompson and Mercer 2012).

Eny Astuti (2018) revealed that there are four factors that influence mothers' interest in using IUD contraception, namely knowledge, religion, economics and cultural factors.

The global maternal mortality rate (MMR) has reached 216/100,000 live births, where as many as 830 women die every day due to complications during pregnancy and childbirth (WHO, 2017). This figure is still very far from the Sustainable Development Goals (SDGs) target, where by 2030 the world MMR is expected to reach 70/100,000 live births (WHO, 2016). Family planning is considered a developmental and life-saving intervention for millions of women.

The Timor-Leste Ministry of Health through the Instituto Nacional de Saúde Pública Timor-Leste (INSP-TL) has taken many steps through training for midwives and doctors, providing facilities and medicines to improve services. The government also offers contraceptive methods ranging from natural methods such as Billings, calendars and standard days, as well as simple contraceptive methods such as condoms, and modern methods such as pills, injections, implants, IUDs, to stable

contraception, namely Tubekom (MOW) and Vasectomy (MOP). (Timor Leste Family Planning Strategy 2020).

Based on the 2021 Timor-Leste Population Census, the population of Timor-Leste currently reaches 1,374,658 people, and a total fertility rate of 3.6% (Census Population 2022). This fertility rate figure is still very high compared to other Asian countries such as Indonesia 2.17%, Malaya 1.8%, India 2.3% (Measure Births per woman, World Bank 2020). This is because the community or PUS (couples of childbearing age) does not want to participate in the family planning program so that the average number of children in Timor-Leste is more than 3 people.

According to 2020 HMIS data, the number of couples of childbearing age was 322,969 with contraceptive use totaling 62,619 where the IUD method was very low with 3,116 acceptors compared to the injection method with 24,835 acceptors.

Looking specifically at the Municipality of Dili, the number of couples of childbearing age reached 97,580 with a total of 37,993 people using contraception and 2,444 or 6.43% using the IUD method. Specifically, in Sentru Saude Komunitaria Comoro, the number of couples of childbearing age is 6,880 and of that number, 2,881 people use contraceptive methods and only 99 people use IUDs or 3.4%.

Various efforts have been made but problems related to acceptor interest in choosing the IUD family planning method in Timor-Leste still remain low to date.

Based on the background and phenomena above, researchers are very interested in researching "The Influence of Knowledge and Attitudes of Acceptors on the Low Use of IUD Contraceptives in SSK Comoro Municipio Dili Timor-Leste in 2024"

Materials and Methods

This research used a cross-sectional design with the research location at the Community Health Center Comoro, Dili Municipality, Timor-Leste, which was carried out in August 2024. The population was all acceptors who used the non-IUD contraceptive method, totally 2,881 people and 96 samples.

The inclusive sampling criteria are: 1) Women aged 18-49 years, 2) Women who do not use IUD contraception methods, 3) Women who use hormonal contraceptive methods, 4) Married women, 5) Women who are acceptors at the Comoro Health Center, 6) Women who are willing to be respondents and 7) Women who are mentally and physically healthy. Exclusion criteria for sampling are: 1) Women who use the IUD contraceptive method, 2) Women who use non-hormonal methods and Natural Family Planning, 3) Women who are under 18 years and over 49 years, 4) Women who are not acceptors from the Comoro CHC, 5) Unmarried women.

Data has been collected using questionnaires, data processing techniques editing, coding, tabulating, analysis using descriptive tests, multiple linear regression tests, hypothesis testing with t tests, F tests, Determinant Coefficient (R²).

Result

Research Location Profile: CHC Comoro is located in the Comoro Village area, Posto Administrativo Dom Alexio, Munisipio Dili Timor-Leste which serves a population of 170,677 people with an area of 33.12 km². CHC Comoro serves 7 Villages and 71 Aldeia, Four Health Posts, Four Postu Suco and Four Posto SISCA. There are 102 health workers working at SSK Comoro and 45 employees working at the Health Post (doctors, nurses, midwives and other technicians) with the status of civil servants and contract employees led by a head of the health center and overseeing several program responsibilities, including maternal and child health, infectious and non-communicable disease programs, and other related pro

Based on the table above, it shows that 98.1% of respondents are aged between 18-49 years, the majority have a high school education (63.2%), work as housewives, 77.4% of whom have a number of children ranging from 1-3 people. While those using contraceptive implants were 62.3%.

Respondent Demographics

Based on the table above, it shows that 98.1% of respondents are aged between 18-49 years, the majority have a high school education (63.2%), work as housewives, 77.4% of whom have a number of children ranging from 1-3 people, while those using contraceptive implants were 62.3%.

In the table above the research results show that the majority of respondents aged 18-49 years have a high school education, 63% and the rest at other levels of education.

The cross-tabulation above shows that the majority of those aged 18-49 years use contraceptive implants, amounting to 61% and the rest use contraceptive pills and injections.

Descriptive Analysis

Based on the table above, the mean for remembering and applying the lowest value shows the remembering and applying indicator at 3.08 and the highest is 4 with the statement Agree on the understanding indicator.

Based on the table above, it shows that the lowest mean is for the acceptance indicator, namely 3.03, while the highest mean is for the responsibility indicator, namely 4.01, which means that most of them answered agreeing with all the statements in the research questions asked of respondents.

The table above shows that the practice of using IUD contraceptives. Most of the respondents answered a mean of around 3, which means they were still hesitant to say yes or no to the questions asked by the researcher to them.

Multiple Linear Regression Test

The multiple regression test aims to determine whether there is an influence of the independent variables in this research, namely knowledge (X1) and attitude (X2) on the practice/behavior variable (Y). The test carried out was the t test with the aim of finding out whether or not there was a (partial) influence of each independent variable such as Knowledge (X1) and Attitude (X2) on the dependent variable Practice (Y).

Hypothesis Testing

t Test

In the results of data analysis through the t test which analyzes the influence of knowledge (X1) with the dependent variable Practice (Y) is X1 with Y is $0.016 < 0.05$, which means there is a partially significant influence of p 0.05 but not significant at p 0.01. The sig X2 value is $0.003 < 0.05$, which means there is a partially significant influence between attitudes towards practice at SSK Comoro and is not significant at p 0.01.

F Test

The correlation value in the F test is $0.000 < 0.05$, meaning that there is a significant simultaneous influence between X1 (Knowledge) and X2 (Attitude) on Y (Practice) and is not significant at p 0.01.

This test aims to measure how much influence the independent variables Knowledge (X1) and Attitude (X2) have on the dependent variable: Practice (Y) with values ranging from 0-1. Model summary consisting of the results of multiple correlation values (R), coefficients

Determination (R Squares), the adjusted coefficient of determination (Adjusted R Square) and the size of the error (SD Error of the estimated).

From the test results above, the test values are as follows:

R Value

The R value in this test shows multiple correlation, where the R value ranges from 0-1. If the R value approaches 1, the relationship between the independent variable and the dependent variable becomes closer, but conversely, if the R value approaches 0, the relationship becomes weaker. In this study, the R value was 0.518, this shows that it is getting closer to the number 1, meaning that the

Knowledge (X1) and attitude (X2) variables have a strong correlation or influence on the practice variable (Y).

R Square (R2)

R Square (R2) shows a coefficient of determination of 0.268, which means that the percentage contribution of the influence of knowledge and attitude variables to the practice of using IUDs is 26.8%, while the remainder is influenced by other variables not included in the model in this study.

Adjusted R Square

The Adjusted R Square value in this model is 0.254, this also shows the contribution of the influence of the independent variable on knowledge (X1) and attitude (X2) to the dependent variable on the practice of using IUDs (Y) of 25.6% and the rest is influenced by other variables that are not included in this model.

Std. Error of the Estimate the size of the error (Std. Error of the Estimate) in this model is 3.84099, which means the size of the error in building this model is only 3.84%. So it can be said that the error is very small and does not interfere with the multiple linear regression test process.

So hypothesis

1. Ho is not rejected: There is an influence of acceptor knowledge on the low practice of using IUD contraception.
2. Ho is not rejected: There is an influence of acceptor attitudes on the low practice of using IUD contraception.
3. Ho is not rejected: There is a simultaneous influence of knowledge and attitudes on the low practice of using IUDs.

Discussion

1. The influence of acceptor knowledge on the practice of using the IUD contraceptive method at Community Health Center Comoro, Dili Municipality in 2024.

The results of multiple linear regression tests using a partial t test and simultaneous f test show that there is an influence between acceptor knowledge on the practice of using the IUD contraceptive method at Community Health Center Comoro. The results of this study are in line with previous research by (1) which found that women who have many children have a significant influence on the practice of using IUD contraception and are supported by almost one hundred percent having a higher level of education. Research results from other researchers show that maternal knowledge has a significant influence on the practice of using IUD contraception, which strongly supports current research (2). The results of this research are also supported by previous research which states that the total knowledge score is correlated with attitudes or behavior and practice of using IUDs (3). If you look at it from

According to the match between the results of previous research by other researchers and the results of this research, the author believes that if someone, especially women, develops better and deeper knowledge, it will have more influence on their commitment and decision in choosing to practice the use of contraception tools in the future. Which will come. For mothers who will access the family planning program at Community Health Center Comoro, it would be good to try to increase their knowledge through counseling by midwives.

2. The influence of acceptor attitudes on the practice of using the IUD contraceptive method at Community Health Center Comoro, Dili Municipality in 2024.

The results of statistical tests using partial and simultaneous multiple linear regression show that there is an influence of acceptor attitudes on the practice of using the IUD contraceptive method at Community Health Center Comoro, Dili Municipality in 2024. The results of this research are strengthened by research conducted in Sweden entitled attitudes towards copper IUDs in Sweden: Survey studies show that there is a close relationship with attitudes towards the decision to take part

in the IUD family planning program, which often occurs in people with low incomes and vice versa if people have high incomes, their attitudes will be better so it is easier to make the decision to take part in the IUD family planning program. (4). Apart from that, this research is also strengthened by the results of other research related to contraceptive use and attitudes: women's concerns about hormonal contraception and copper intrauterine devices show that a greater percentage of mothers use IUDs compared to other contraceptives (5). Attitude is a determining factor that every mother usually has, when they already understand or their knowledge is good, and in the end they take a more positive attitude towards the decisions they will take. On This research is very clear that theoretically from previous researchers supports the results of the current research, so it can have a positive impact on mothers' attitudes towards the practice of using IUDs. The attitude of mothers who will visit Community Health Center Comoro, it is necessary to ensure that they understand the concept of the IUD contraceptive device, so they will automatically decide whether or not to participate in using the IUD contraceptive device. This is the principal task of health workers working at Community Health Center Comoro in the future.

3. The influence of acceptor knowledge and attitudes on the practice of using the IUD contraceptive method at Community Health Center Comoro, Dili Municipality in 2024

The results of the multiple linear regression test in this study show that there is a significant partial and simultaneous influence between the knowledge and attitude variables on the practice variable of using the IUD. The results of this research are in line with previous research entitled Exploring knowledge, attitudes and practices regarding intrauterine device (IUD) contraception among family planning participants in Windhoek, Khomas Region, Namibia, showing that the practice of using IUDs is closely related to mothers' decisions in choosing IUD contraceptive device (6). Similar research conducted in Indonesia reported that in terms of the practice of using IUD contraception, the majority of mothers of childbearing age consult with their partners first before deciding to become active IUD acceptors (7).

Mothers of childbearing age who come to the decision to choose to become IUD family planning acceptors can understand that this needs to be preceded by actions to increase their knowledge so that it will change their behavior or attitudes significantly and in the end they will decide to become IUD family planning participants. Apart from that, it is also related to necessary decisions

Also pay attention to the participation of the family, especially the partner or husband. Because it will create harmony in the household in the future. Therefore, this section is very suitable to be developed at Community Health Center Comoro and other Community Health Center in Timor-Leste in the future. Through this mechanism, it will increase the number of IUD family planning participants at Community Health Center Comoro in particular and in Timor-Leste in general.

Conclusions

There is an influence of acceptor knowledge on the low practice of using IUD contraceptive methods in Community Health Center Comoro, Dili Municipality in 2024. There is an influence of acceptor attitudes on the low practice of using IUD contraceptive methods in Community Health Center Comoro, Dili Municipality in 2024. There is an influence of acceptor knowledge and attitudes on the practice of using the IUD contraceptive method at Community Health Center Comoro, Dili Municipality in 2024.

Ethical Approval and Consent to Participate: Have received ethical clearance for this research from the Comité ethics do Instituto Nacional de Saúde Pública de Timor-Leste.

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Abbreviations

IUD	Intra Uterine Devices
SSK	Community Health Center

References

1. Alsharif SS, Abu Saeed RI, Alskhairi RF, Almuwallad SA, Mandili FA, Shatla M. Knowledge, Attitude, and Practice of Contraception Use Among Childbearing Women in Makkah Region, Saudi Arabia. *Cureus*. 2023;15(2):1–11.
2. Tulle I, Atika A, Winardi B. Correlation Between Mother'S Knowledge and Husband'S Support With the Use of Iud in Boawae Community Health Center. *Indones Midwifery Heal Sci J*. 2021;4(4):344–53.
3. Santoso BI, Surya R. Knowledge, attitude, and practice of contraception among pregnant women in Ende district, East Nusa Tenggara, Indonesia. *J South Asian Fed Obstet Gynaecol*. 2017;9(2):110–8.
4. Wemrell M, Gunnarsson L. Attitudes Toward the Copper IUD in Sweden: A Survey Study. *Front Glob Women's Heal*. 2022;3(July):1–15.
5. Svahn S, Niemeyer Hultstrand J, Tydén T, Ekstrand Ragnar M. Contraception use and attitudes: women's concerns regarding hormonal contraception and copper intrauterine devices. *Eur J Contracept Reprod Heal Care*. 2021;26(6):473–8.
6. Taapopi FNFN, Van der Westhuizen LBLB. Exploring knowledge, attitudes and practices regarding the intrauterine contraceptive device (IUD) among family planning acceptors in windhoek, Khomas Region, Namibia. *Afr J Reprod Health*. 2019;23(4):75–80.
7. Yani A, Afni N, Syukran M. The Enhancing Women ' s Contraceptive Decision-Making : A Qualitative Study of IUD Adoption Among Women of Childbearing Age of Health Promotion , Faculty of Public Health , Universitas Muhammadiyah Palu , Palu , Central Sulawesi , Indonesia 2 Department o. 2023;17(3):590–7.
8. Hasibuan R, Arifah I, Kusumaningrum TAI. Faktor– Faktor Yang Berhubungan Dengan Pemilihan Metode Kontrasepsi Jangka Panjang (MKJP) Pada Akseptor KB Di Puskesmas Purwosarikota Surakarta. *J Kesehat*. 2021;14(1):68–78.
11. Gusman AP, Notoatmodjo S, Aprilia YT. Hubungan Pengetahuan Dan Sikap Terhadap Pemilihan Alat Kontrasepsi Jangka Panjang Pada Wanita Usia Subur (WUS) di Wilayah Kerja Polindes Kefa Utara Kab. TTU PROV. NTT Tahun 2021. *J Untuk Masy Sehat*. 2021;5(2):120–7.
12. Hastuty M, Afiah. Factors that influence the behavior of family planning acceptors regarding the selection of MKJP in the work area of the Tambang Health Center in 2018. *J Doppler Univ Pahlawan Tuanku Tambusai [Internet]*. 2018;2(1):15–22. Available from: <https://journal.universitaspahlawan.ac.id/index.php/doppler/article/view/157>
13. Hasibuan R, Arifah I, Kusumaningrum TAI. Factors Associated with the Selection of Long Term Contraceptive Methods (MKJP) in Family Planning Acceptors at the Purwosarikota Surakarta Community Health Center. *J Health*. 2021; 14 (1):68–78.
14. Sari NL. Relationship between Knowledge and Attitudes of Women of Childbearing Age (WUS) with the Use of Contraceptives. *J Health Panca Bhakti Lampung*. 2019; 7(1):41.
15. Mariani, R., Ansori, H. and Mawaddah, S., 2021. Higher order thinking abilities according to Anderson and Krathwohl's theory in class IX junior high school students. *Jurmadikta*, 1(1), pp.49-55.
16. Munro, J., 2014. Papuan perspectives on family planning, fertility and birth control. Australian National University.
17. Milatina, N., 2020. LITERATURE REVIEW: FACTORS FOR LOW USE OF LONG TERM CONTRACEPTION METHODS (MKJP).
18. Notoatmodjo S. Health Promotion Theory and Application. Jakarta: Rineka Cipta; 2018.
19. Pitriani, R., 2015. The relationship between education, knowledge and the role of health workers with the use of intrauterine device (IUD) contraception in the Muara Fajar Inpatient Health Center working area, Pekanbaru. *Journal of community health*, 3(1), pp.25-28.
20. Prijatni, I., and Rahayu, S., 2016. Reproductive health and family planning.
21. Putriningrum, R., Umarianti, T., Sholikhah, M.M.A. and Yulistiana, D., 2014. Factors that influence the low interest in using an IUD (IUD) in Gebang Sukodono Village. *Kusuma Husada Health Journal*.
22. Ratnaningtyas, I.A., 2009. The relationship between the level of maternal knowledge about contraceptive methods and the use of hormonal and non-hormonal contraception in RW III Karangasri village, Ngawi.
23. Strategi Family Planning Timor Leste (2020)
24. Susanti, E.T. and Sari, H.L., 2020. Health Education About Types of Contraceptive Devices on the Selection of Contraceptive Devices. *Journal of Health*, 9 (1), pp.53-57.
25. Safitri, M., 2021. Relationship between A Mother's Attitude towards Using the IUD Contraceptive Device: Literature Review.
26. Sanderson, W.C. and Tan, J.P., 1995. Population in Asia. World Bank Publications.

27. Suariyani, N.L.P. and Suryadhi, N.T., 2014. The Relationship between Knowledge and Attitudes with the Use of Contraceptives in EFA at the Comoro Health Center, Dili, Timor Leste. *Public Health and Preventive Medicine Archive*, 2(1), pp.39-44.
28. Sari, N.H. and Rodiani, R., 2015. The relationship between maternal knowledge level and the use of intrauterine contraceptive devices (IUD). *Medical Journal of Lampung University*, 4(9), pp.108-112
29. Thompson, S. and Mercer, M.A., 2012. Integrating child spacing with maternal care in postconflict Timor-Leste. *Global case studies in maternal and child health*, p.103.
30. World Health Organization, 2016
31. White K, Hopkins K, Potter JE, Grossman D. Knowledge and attitudes about long-acting reversible contraception among Latina women who desire sterilization. *Women's Health Issues* [Internet]. 2013 Jul [cited 2021 Aug 31]; 23(4):e257. Available from: /pmc/articles/PMC3707629
32. Widiyastuti, N.E., 2023. CHAPTER 10 HEALTH RESEARCH ETHICS. *Introduction to Health Methodology*, p.117

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