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Compliance with DMPA contraceptive injection repeat visits during the Covid 19 pandemic

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ABSTRACT

The 3-month of DMPA injectable contraceptive is one of the contraceptive methods that has decreased in the number of users during the Covid-19 pandemic. Acceptors of 3-month injectable contraceptives who do not comply with visits can reduce effectiveness and increase the risk of pregnancy. This study aims to examine the factors that influence the adherence of 3-month DMPA injection family planning acceptors during the Covid-19 pandemic. This was quantitative research with cross sectional design. The sample used in this study were 125 acceptors of 3-month DMPA injection family planning. Data was obtained by using a questionnaire. The analysis was performed using logistic regression. Based on multivariate analysis, there were 3 factors associated to adherence to DMPA injection repeat visits, namely family planning acceptor occupation (OR=0.11, 95%CI= 0.04-0.31), knowledge (OR=3.59, 95%CI=1.34-9.58) and husband's support (OR=5.84, 95%CI=2.42-14.08). The most dominant factor was husband's support (OR=6.65, 95%CI=2.51-21.46). Husband's support is the most important factor that is strongly associated to injection repeat visits for DMPA family planning acceptors during the covid 19 pandemic. Good communication between partners is needed to increase DMPA injection repeat visits.

1. Introduction

Depo Medroxy Progesterone Acetate (DMPA) is an injectable contraceptive method that inhibits ovulation, thickens cervical mucus to prevent sperm from fertilizing the ovum. DMPA is injected by health personnel intramuscularly every 3 months with a failure rate of 4% (KFF, 2020). Based on World Contraceptive Use data in 2019, as many as 74 million women in the world aged 15-49 years (8%) use injectable contraception, while in Indonesia 23.2% which is the highest number of types of contraceptive methods used by women aged 15-49 (UNFPA, 2018). Due to the low failure rate of this type of DMPA contraceptive, it is categorized as a method of contraception with high effectiveness (Fonseca et al., 2017a; United Nations - Department of Economic and Social Affairs, 2019).

Many factors affect the continuity injecting contraceptive method with DMPA, including side effects factors such as menstrual disorders which are effects directly felt by the user (Baumann et al., 2019; Burke et al., 2019). In addition, other factors such as husband's support, parity, education and knowledge are considered to have an effect on the sustainability of this contraceptive use (Aman et al., 2019).

During covid-19 pandemic, there has been a decrease in the number of repeat visits to family planning service acceptors over the word, 13 to 15 million women in low and middle income countries cannot access contraceptive services related to state policies to limit activities (UNFPA, 2020b). Several developing countries reported a decrease in the use of contraceptives by users of DMPA injection (Burlando et al., 2021; Osinowo et al., 2021) including in Indonesia (Herawati et al., 2020). The decline in DMPA injection repeat visits at health facilities also occurred in DKI Jakarta, which decreased by 25.9% in 2020 from the previous year (Fonseca et al., 2017b).

Possible causes that can lead to a decrease in the number of DMPA injection family planning visits include a decrease in household income (UNFPA, 2020a) and the difficulty of access due to the policy situation of limiting activities outside the home (Herawati et al., 2020). Other factors that led to a decrease in the compliance of DMPA injecting of family planning acceptors for repeat visits that were not yet known, which occurred during the covid 19 pandemic, were maternal age, education, occupation, parity, acceptors' knowledge about the importance of injecting DMPA repeat visits, and husband's support. So, this study aims to examine factors associated to the compliance of DMPA injection family planning acceptors for repeat visits during the COVID-19 pandemic.

2. Methods

This research was an analytic observational study with a cross sectional design. The sample in this study were all DMPA injection acceptors at the Cakung District Health Center, East Jakarta, amounting to 125 women who were obtained using a two-proportion difference sample formula and selected using accidental sampling for samples that met inclusion (used the DMPA injection method at least 3 injection cycles, no having severe side effects), and exclusion criteria (new injectable contraceptive acceptors and have side effects of using injectable contraceptives such as hypertension and heavy menstrual disorders).

This study examines the factors related to adherence to DMPA injection repeat visits, as independent variables, namely mother age (20-35 years, <20 and >35), education (high, basic-medium level), occupation (worked, not worked/ housewives), parity (primipara, multipara, grande multipara), knowledge (high, medium, low), and husband's support (supportive, not supportive). Meanwhile, as the dependent factor of the assessment results, namely the compliance of DMPA injection family planning acceptors for repeat visits (compliance and non-compliance).

The data in this study were taken using a questionnaire developed by the author and has been tested for the level of validity and reliability for mother's knowledge and husband's support. All questions have been declared valid (r count > r table) and reliable (Cronbach's Alpha 0.710 > 0.6).

Univariate analysis was used to determine the proportion of each category of variables assessed. Furthermore, Chi-Square analysis was used to compare two categories of variables that were related to each other with a confidence level of <0.05. Then to see the comparison of several variables that were considered to have an effect on the dependent variable, a multivariable analysis was carried out with logistic regression analysis to see the results of the odds ratio (OR) with a 95% confidence interval (CI).

All research respondents have agreed to become the research sample by signing the informed consent and have the right not to answer questions if they wish. This research has received approval for conducting research from the research site and from the research ethics commission from Universitas Respati Indonesia number 090/SK.KEPK/UNRI/III/2022.

3. Results/Findings

Table 1 shows that of the 125 respondents who received DMPA injections at the Cakung Sub-district Health Center, the majority of 94 respondents (75.2%) complied for repeat visits, the majority were aged 20-35 years (67.2%), most of them had high school education (79, 2%), most do not work

(86.4%), most have 2-4 children/primiparous (84%), most have high knowledge of understanding about DMPA injection (83.2%), and most have support husband (71.2%).

Table 1. Characteristics of respondents

Variable	n	Percentage (%)
Age (year)		
1. 20 -35	86	68.8
2. < 20 and >35	39	31.2
Education		
1. High level	19	15.2
2. Basic and medium level	106	84.8
Occupation		
1. Worked	22	17.6
2. Not worked/ housewives	103	83.4
Parity		
1. Primipara (1 child)	21	16.8
2. Multipara (2-4 children)	96	76.8
3. Grande Multipara (>5 children)	8	6.4
Knowledge		
1. High	104	83.2
2. Medium	21	16.8
3. Low	0	0
Husband's support		
1. Supportive	89	71.2
2. Not supportive	36	28.8
Compliance for revisiting of DMPA injection		
1. Compliance	94	75.2
2. non-compliance	31	24.8

Furthermore, table 2 shows the results of the association between each variable on the characteristics of respondents with adherence to DMPA injection contraceptive visits. From the results of the bivariate analysis, it was found that the mother's occupation, knowledge and husband's support had a significant association with the adherence of DMPA injection family planning acceptors to repeat visits (p value < 0.05). The OR (95%CI) of each related variable was 0.1 (0.04-0.31) for occupation, 3.5 (1.34-9.48) for knowledge, and 5.8 (2.42-14.08) for husband's support.

Table 2. The factors associated to compliance of family planning acceptor for revisit of DMPA injection during the covid-19 pandemic

Variable	Compliance				OR	95%CI	P *Value**
	Compliance		Disobedience				
	N	*%*	*N*	*%*			
Age (year)							
20-35	68	72,3	18	58.1	1,889	0,812-4,395	0,206
<20 and >35	26	27.7	13	31.0			
Education							
Higher	16	17	3	9,7	1,915	0,518-7,071	0,400
Basic and middle	78	83	28	90,3			
Occupation							
Worked	8	36,4	14	63,6	0.11	0,041-0,311	< 0.001*
Not worked/ housewives	86	83,5	17	16,5			
Parity							
Primipara-multipara	74	78,7	24	77.4	1,079	0,407-2,864	1.000
Grande multipara	20	21,3	7	22,6			
Knowledge							
High	83	79,8	21	20,2	3,59	1,34-9,58	0,017*
Basic-medium	11	52,4	10	47,6			
Husband's support							
Supportive	76	80,9	13	41.9	5,84	2,42-14,08	< 0.001*
Not supportive	18	19.1	18	58.1			

* *Chi square* Significant = p *value* < 0,05

Table 3 shows the results of multivariable logistic regression analysis, the most dominant factor influencing the adherence of DMPA injection family planning acceptors to make repeat visits was husband's support with OR (95%CI) = 6.65 (2.51-21.46), p value < 0.001, and continued with occupation with OR (95%CI) = 0.09 (0.03-0.30).

Table 3. The Multivariable analysis for factors associated to compliance of family planning acceptor for revisit of DMPA injection during the covid-19 pandemic

Variable	Compliance				OR	95%CI	P *Value**
	Compliance		Disobedience				
	N	*%*	*N*	*%*			
Occupation							
Worked	8	36,4	14	63,6	0.09	0,03-0,30	< 0.001
Not worked/ housewife	86	83,5	17	16,5			
Knowledge							
High	83	79,8	21	20,2	1,89	0,66-7,33	0,29
Medium	11	52,4	10	47,6			
Husband's support							
Supportive	76	80,9	13	41.9	6.65	2.51-21.46	< 0.001
Not supportive	18	19.1	18	58.1			

4. Discussion

Our study found that mother's occupation, mother's knowledge and husband's support had an association with adherence to repeated DMPA injection contraceptive visits. Husband's support was the most dominant factor influencing the compliance of family planning acceptors with DMPA injections for repeat visits during the current covid 19 pandemics, followed by mother's work, mothers who do not work were protective factors for re-injection family planning compliance in accordance with the specified time.

This study is consistent with a cross sectional study of 1,825 women of childbearing age in Angola who stated that husband's support plays an important role in accessing contraceptive services (Prata et al., 2017). This was related to self-efficacy and women's perception of the choice of contraceptive use. In addition, a quasi-experimental study in Nigeria on 484 married women (Akamike et al., 2020), and a qualitative study of 103 community and healthcare provision in South Africa (Kriel et al., 2019) also showed that husbands have an important role in making the decision to use contraceptives, husbands with higher education were easier to discuss about the use of contraceptives with their partners (Kriel et al., 2019).

In this study, women's knowledge about understanding contraceptives plays an important role in maintaining adherence to DMPA contraceptive use. A retrospective study in India of 200 DMPA injectable contraceptive users stated that persistent contraceptive use occurred in acceptors who had been effectively counseled (Fonseca et al., 2017a). This proves that the provision of effective education and counseling will increase mother's knowledge about the importance of contraception and can avoid the possibility of non-compliance in obtaining contraceptive services (Ogidi et al., 2019).

During the COVID-19 pandemic, it was found that the causal factors associated to DMPA injection repeat visits were still the same factors as before the COVID-19 pandemic, namely most of the husband's support. According to the Indonesian National Family Planning Coordinating Board, most family planning acceptors delay return visits to get contraceptive services, partly because they are afraid of contracting COVID-19 infection, this also makes their husbands do not give permission for treatment to health facilities at that time. A cross-sectional study in Bangladesh reported that husband's support was the main factor causing a decrease in the prevalence of family planning use with OR (95%CI) = 1.95 (1.30-2.94), p value = <0.001(Roy et al., 2021). A mixed methods study in Kenya on access to contraceptive services during the COVID-19 pandemic stated that most women delayed return visits due to insecurity from the family's economic conditions (husbands lost their jobs and reduced wages) as well as activity restrictions due to the pandemic which made it difficult for women to make decisions to repeat visits using contraception, such as the difficulty of making an agreement with the husband to get permission to leave the house (Hassan et al., 2022).

Husband's support for the use of contraceptives is also related to their reasons for agreeing to support the use of contraceptives. Husband's support was influenced by husband's education, personality and income level (Al-Sheyab et al., 2021; Kyu et al., 2018). A study in Tanzania stated that the husband's involvement in the choice of contraception increased the coverage of contraceptive use from 20% to 35% within 1 year after the intervention. The husband's involvement in the choice of contraception will increase the wife's ability to choose the contraceptive used, the wife's belief that the joint selection of the contraceptive to be used will have a good impact on the process of repeat visits in the future (D'Exelle & Ringdal, 2022).

This was an important study in looking at the possible factors that influence DMPA injection repeat visits during the covid-19 pandemic. However, this study still has several limitations, including the limited number of samples and other factors that have not been included in the research variables such as husband's education level, monthly family income level, knowledge and attitudes of wives and partners towards the possibility of repeated visits.

5. Conclusion

In conclusion, husband's support is an important factor influencing DMPA injection repeat visits during the covid 19 pandemic. Good communication between partners is very necessary to be able to support each other in the use of contraceptives and avoid possible delays in the next visit for contraceptive use.

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References

Akamike, I. C., Madubueze, U. C., Okedo-Alex, I. N., Anyigor, C. J., Azuogu, B. N., Umeokonkwo, C. D., & Mbachu, C. O. (2020). Perception, pattern of use, partner support and determinants of uptake of family planning methods among women in rural communities in Southeast Nigeria. *Contraception and Reproductive Medicine*, *5*(1), 1–8. https://doi.org/10.1186/s40834-020-00120-x

Al-Sheyab, N. A., Al Nsour, M., Khader, Y. S., Yousif, H., Alyahya, M. S., Taha, H., Bardus, M., Al Kattan, M., & Amiri, M. (2021). Midwives and women's perspectives on family planning in Jordan: human rights, gender equity, decision-making and power dynamics. *Heliyon*, *7*(8), e07810. https://doi.org/10.1016/j.heliyon.2021.e07810

Aman, Sami, & Seema. (2019). Depot medroxy progesterone acetate (DMPA): Its acceptance, compliance and factors influencing continuation rates among women attending Lal Ded Hospital in Kashmir. *Journal of Medical Science and Clinical*, *7*(12), 314–319.

Baumann, Lhaki, & Burke. (2019). Assessing the role of caste/ethnicity in predicting menstrual knowledge, attitudes, and practices in Nepal. *Global Public Health*, *14*(9), 1–14.

Burke, H. M., Chen, M., Buluzi, M., Fuchs, R., Wevill, S., Venkatasubramanian, L., Santo, L. D., & Ngwira, B. (2019). Factors affecting continued use of subcutaneous depot medroxyprogesterone acetate (DMPA-SC): A secondary analysis of a 1-year randomized trial in Malawi. *Global Health Science and Practice*, *7*(1), 54–65. https://doi.org/10.9745/GHSP-D-18-00433

Burlando, Flynn, Gutman, McAllister, Roe, Schreiber, & Sonalkar. (2021). The Role of Subcutaneous Depot Medroxyprogesterone Acetate in Equitable Contraceptive Care: A Lesson From the Coronavirus Disease 2019 (COVID-19) Pandemic. *Obstetrics and Gynecology*, *138*(4), 574–577. https://doi.org/10.1097/AOG.0000000000004524

D'Exelle, B., & Ringdal, C. (2022). Women's use of family planning services: An experiment on the husband's involvement. *Journal of Development Economics*, *158*(June 2021), 102915. https://doi.org/10.1016/j.jdeveco.2022.102915

Fonseca, Deshmukh, & Kharat. (2017a). DMPA: acceptance and compliance in a tertiary care hospital in Mumbai, India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, *6*(9), 3879. https://doi.org/10.18203/2320-1770.ijrcog20174026

Fonseca, M., Deshmukh, P. Y., & Kharat, D. (2017b). DMPA: acceptance and compliance in a tertiary care hospital in Mumbai, India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, *6*(9), 3879. https://doi.org/10.18203/2320-1770.ijrcog20174026

Hassan, R., Bhatia, A., Zinke-Allmang, A., Shipow, A., Ogolla, C., Gorur, K., & Cislaghi, B. (2022). Navigating family planning access during Covid-19: A qualitative study of young women's access to information, support and health services in peri-urban Nairobi. *SSM - Qualitative Research in Health*, *2*(December 2021), 100031. https://doi.org/10.1016/j.ssmqr.2021.100031

Herawati, Fitriana, Rosyada, Pratiwi, D., & Wigati, N. (2020). Family Planning Services by Mandiri Midwife Practices in Yogyakarta During the Pandemic Period of Covid-19. *Jurnal Ilmu Kesehatan Masyarakat*, *11*(2), 123–135. https://doi.org/10.26553/jikm.2020.11.2.123-135

KFF. (2020). DMPA Contraceptive Injection: Use and Coverage | KFF. *KFF Women`s Health Policy*. https://www.kff.org/womens-health-policy/fact-sheet/dmpa-contraceptive-injection-use-and-coverage/

Kriel, Milford, Cordero, Suleman, Beksinska, Steyn, & Smit. (2019). Male partner influence on family planning and contraceptive use: Perspectives from community members and healthcare providers in KwaZulu-Natal, South Africa. *Reproductive Health*, *16*(1), 1–15. https://doi.org/10.1186/s12978-019-0749-y

Kyu, H. H., Abate, D., Abate, K. H., Abay, S. M., Abbafati, C., Abbasi, N., Abbastabar, H., Abd-Allah, F., Abdela, J., Abdelalim, A., Abdollahpour, I., Abdulkader, R. S., Abebe, M., Abebe, Z., Abil, O. Z., Aboyans, V., Abrham, A. R., Abu-Raddad, L. J., Abu-Rmeileh, N. M. E., … Murray, C. J. L. (2018). Global, regional, and national disability-adjusted life-years (DALYs) for 359 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, *392*(10159), 1859–1922. https://doi.org/10.1016/S0140-6736(18)32335-3

Ogidi, C. I., Okere, A. U., Ogbuabor, S. E., Nwadike, A. N., Usen, S. A., Onumonu, A. J., Ozoemena, L. C., Edeh, N. C., & Egwim, C. E. (2019). Knowledge and Use of Birth Control Methods for Family Planning by Married People in Nsukka Education Zone of Enugu State. *Global Journal of Health Science*, *11*(8), 96. https://doi.org/10.5539/gjhs.v11n8p96

Osinowo, K., Sambo-Donga, F., Ojomo, O., Ibitoye, S. E., Oluwayemi, P., Okunfulure, M., Ladipo, O. A., & Ekholuenetale, M. (2021). Resilient and Accelerated Scale-Up of Subcutaneously Administered Depot–Medroxyprogesterone Acetate in Nigeria (RASuDiN): A Mid-Line Study in COVID-19 Era. *Open Access Journal of Contraception*, *Volume 12*(December), 187–199. https://doi.org/10.2147/oajc.s326106

Prata, Bell, Fraser, & Carvalho. (2017). Partner support for family planning and modern contraceptive use in Luanda , Angola. *African Journal of Reproductive Health*, *21*(2), 35–48.

Roy, N., Amin, M. B., Maliha, M. J., Sarker, B., Aktarujjaman, M., Hossain, E., & Talukdar, G. (2021). Prevalence and factors associated with family planning during COVID-19 pandemic in Bangladesh: A cross-sectional study. *PLoS ONE*, *16*(9 September), 1–14. https://doi.org/10.1371/journal.pone.0257634

UNFPA. (2018). Humanitarian Action 2018 Overview. In *United Nation Population Fund*. https://www.unfpa.org/sites/default/files/pub-pdf/

UNFPA. (2020a). Humanitarian action 2021 overview. In *United Nations Population Fund*. https://www.unfpa.org/sites/default/files/pub-pdf/PAGES-UNFPA_HAO2021_Report_Updated_6_Dec.pdf

UNFPA. (2020b). *Impact of COVID-19 on access to contraceptives in the LAC Region (Issue August)*. https://www.rhsupplies.org/uploads/tx_rhscpublications/Impact_of_COVID_19_on_the_access_to_contraceptives_in_LAC_countries.pdf

United Nations - Department of Economic and Social Affairs. (2019). Contraceptive Use by Method 2019 - Data Booklet. In *Contraception Use by Method 2019* (p. 25). https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/files/documents/2020/Jan/un_2019_contraceptiveusebymethod_databooklet.pdf