

FAMILY PLANNING SERVICES AT DENPASAR TOWARD A HEALTHY CITY

Jurnal Pengembangan Kota (2019)

Volume 7 No. 2 (120–127)

Available online at:

<http://ejournal2.undip.ac.id/index.php/jpk>

DOI: 10.14710/jpk.7.2.120-127

Luh Seri Ani¹, I Made Merdana^{2*} and Nyoman Sumiati³

¹Public Health Departement, Faculty of Medicine, Udayana University,

Jl. P.B. Sudirman No.1, Denpasar Barat, Bali-80234, Indonesia

²Pharmacology and Pharmacy Laboratory, Faculty of Veterinary Medicine,

Udayana University, Jl. P.B. Sudirman No.1, Denpasar Barat, Bali-80234, Indonesia

³BKKBN Representative of Bali Province, Jl. Raya Puputan No. 15, Renon, Bali, Indonesia

Abstrak. Salah satu tujuan dari pembangunan kota adalah peningkatan kualitas hidup masyarakat terutama pada aspek kesehatan, seperti yang dilakukan di Denpasar, Bali yang ingin menciptakan kota yang sehat atau healthy city. Pembangunan Kota Denpasar diharapkan dapat menciptakan dan meningkatkan pelayanan kesehatan kepada seluruh masyarakat. Peningkatan pelayanan infrastruktur kesehatan diharapkan dapat mendukung program kesehatan pemerintah lainnya, diantaranya adalah Program Keluarga berencana (KB) sebagai salah satu upaya untuk menghambat laju pertumbuhan penduduk yang berdampak negatif terhadap perekonomian dan lingkungan suatu wilayah pedesaan dan perkotaan. Melalui program KB orang bisa mengatur jumlah anak dan jarak kehamilan yang diinginkan khususnya bagi masyarakat yang tinggal diperkotaan. Penelitian ini ditujukan untuk mengetahui pelayanan alat kontrasepsi pada Wanita Usia Subur (WUS) di daerah perkotaan. Survei deskriptif cross sectional dilakukan terhadap 1,777 wanita usia subur di Kota Denpasar. Data pengguna KB diperoleh dari pendataan keluarga BKKBN tahun 2018. Data hasil survei diolah secara univariat dan bivariat untuk mengetahui trend penggunaan alat kontrasepsi di Kota Denpasar. Sebesar 55.7% pelayanan KB di Denpasar dalam kategori buruk. Wanita Usia Subur (WUS) di kota Denpasar tidak memiliki jaminan kesehatan (41.6%), tidak mendapat informasi KB melalui media (41,1%), tidak mendapat informasi dari petugas kesehatan (73,5%), tidak mendapat kunjungan petugas lapangan (96,5%) dan tidak mendapat layanan konseling (59,8%). Rendahnya pemanfaatan layanan KB ini akan mempengaruhi kualitas hidup masyarakat di Denpasar, terutama WUS dan menjadi hambatan pencapaian healthy city.

Kata kunci: Pelayanan kesehatan; Keluarga berencana; Perkotaan; Wanita usia subur

[Title: Family Planning Services at Denpasar Toward a Healthy City]. One of the goals of urban development is to improve the quality of life of the people, especially in the aspect of health, as found in Denpasar, Bali, which wants to create a healthy city. Denpasar City Development is expected to create and improve health services for the entire community. Improved health infrastructure services are expected to support other government health programs, including the Family Planning Program (KB) as an effort to inhibit the rate of population growth that negatively impacts the economy and environment of a rural and urban area. Through family planning programs people can set the number of children and the desired pregnancy distance, especially for people who live in urban areas. This study aimed to determine contraceptive services in Fertile Age Women (WRA) in urban areas. A cross sectional descriptive survey was conducted on 1,777 women of childbearing age in Denpasar City. Data on family planning users were obtained from the BKKBN family data collection in 2018. The survey data were processed through univariate and bivariate analysis to determine trends in the use of contraceptives in Denpasar. 55.7% of family planning services in Denpasar are in a bad category. Fertile Age Women (WUS) in the city of Denpasar do not have health insurance (41.6%), do not receive family planning information through the media (41.1%), do not get information from health workers (73.5%), do not get field visit from the health workers (96.5%) and do not receive counseling services (59.8%). The low utilization of family planning services will affect the quality of life of the community in Denpasar, especially the WUS and become a barrier to achieve a healthy city.

Keyword: Health services; Family planning; Urban; Women of childbearing age

Citation : Ani. L. S., Merdana. I. M., & Sumiati. N. (2019). Family Planning Services at Denpasar toward a Healthy City. *Jurnal Pengembangan Kota*. Vol 7 (2): 120-127. DOI: 10.14710/jpk.7.2.120-127

1. INTRODUCTION

Smart city is a city that stands with very strong information technology and communication that invests in human and social capital to improve the quality of life of its citizens by encouraging economic growth, participatory financial governance, wise management of resources, sustainable capabilities, and efficient mobility, while they guaranteeing customer privacy and security (Solanas, Patsakis, Conti, Vlachos, Ramos, Falcone, Postolache, Pérez-Martínez, Di Pietro, & Perrea, 2014). The implementation of smart cities in Indonesia is still experiencing various obstacles, ranging from inadequate supporting infrastructure, the readiness of the local government, to the people themselves who have not been able to utilize digital technology to the full (Boulos & Al-Shorbaji, 2014). Nevertheless, several cities in Indonesia have begun to adopt the concept of smart city, including the city of Denpasar-Bali. The Denpasar city government has made various innovations to improve the quality of the city and the community from various aspects such as education, welfare and health (Sucitawathi, Joniarta, & Dewi, 2018).

WHO defines 'healthy city' as a city that continues to create and improve the physical and social environment and expand community resources that enable people to support one another in carrying out all functions of life and in developing their maximum potential (Tsouros, 1995). Satisfaction with social interactions and with the environment contributes significantly to the perceived quality of life (Slater, Estrada, Suarez-Lopez, de la Vara-Salazar, & Campero, 2018). This year's World Health Day focuses on the importance of urban health. Urbanization is occurring so rapidly in some parts of the world that

cities are unable to keep up with increased demand for environmental, health and education services in less than 25 years (World Health Organization, 2019). For this, one of the cheapest and longest-lasting health interventions is a family planning service (Bailey, 2013). Family planning services are still a problem in both rural and urban areas. The poor people who living in urban areas have difficulty accessing family planning services for various financial (Schoemaker, 2005), social and cultural reasons, related to unwillingness, ability and unwillingness to contraceptive services (Hopkins, 2019). With the increasing population living in urban areas, increasing community access to family planning services in urban areas must be a high priority (United Nations, 2017). The large number of families that are supported has an impact on the quality of their lives such as nutrient intake and poor health outcomes. The large number of family members will be a burden for the family to provide nutritious food for the family. Less than the recommended nutritional intake contributes to the low health status of the family (Liang, 2018).

The use of modern contraceptive methods in some countries by couples who want to prevent pregnancy remains low (Fitrianingsih & Melaniani, 2016). WHO reports, 214 million women of reproductive age in developing countries who want to avoid pregnancy do not use contraceptive methods. In Africa, as many as one in 5 women has unmet needs (World Health Organization, 2019). The long-term use of modern contraceptive in Indonesia has also decreased over the period 1991-2017 by 19.1 percent in 1991 falling to 13.2 percent in 2017 while modern short-term contraceptive (have increased that is equal to 27.3 percent in 1991 to 43.6 percent in 2017 (Badan Pusat Statistik, 2018). Short-term modern contraceptive consists of the pill, condoms, the lactational amenorrhoea method (LAM), diaphragms, foaming tablets, jelly, and the emergency contraceptive pill), long term modern contraceptive consists of injectables, implants and IUDs, female and male sterilisation (Bahri, Tohidinik, Bilandi, Larki, Hooshangi, & Soltanian, 2016). Traditional contraceptive consist of periodic abstinence, withdrawal, and various folk methods such as strings and herbs. Some reasons for not using contraception include limited choice of

ISSN 2337-7062 © 2019

This is an open access article under the CC-BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-sa/4.0/>). – see front page © 2019

*Email imade_merdana@unud.ac.id

Accepted 15 October 2019, approved 29 November 2019

This paper is presented in The 2nd International Conference on SMART CITY Innovation (ICSCI) 9 October 2019, Organized by Diponegoro University, Semarang, Indonesia.

contraceptive methods, limited access to contraception, fear of or experiencing side effects, cultural and religious opposition, low quality of health services, bias between users and providers and gender-based barriers (Alyahya, Hijazi, Alshraideh, Al-Sheyab, Alomari, Malkawi, Qassas, Darabseh, & Khader, 2019).

Various studies linking the use of contraception with the quality of life have been carried out, but there are no consistent results. One study found that women who use oral contraceptives and women who have undergone permanent sterilization tend to have a lower quality of life than women who use IUDs or implantable hormones and injections and those whose husbands use condoms (Alyahya et al., 2019). Whereas other researchers found that there was no significant improvement in the qualitative lives of FP participants after using family planning (Avasarala, 2009). A smaller family size through the use of contraception is one step on a long continuum of social and economic factors that can improve the quality of life for all family members (Bahri et al., 2016; Best, 1998). Based on the foregoing, this research is intended to find out family planning services in Denpasar.

2. METHODS

This study uses secondary data from the BKKBN family data collection in 2018. The subjects of this study were women of reproductive age (WRA) or ages 15-49 years in Denpasar City. The research sample of 1777 WRA was selected using a systematic proportional to size method where the size is the number of households as a result of the 2010 population census listing and the implicit stratification process by sorting census blocks based on urban, rural and welfare index categories.

The variable in this study is contraceptive services, the use of contraceptives, the type of family planning used, the place of family planning services and the reasons for not using family planning. This variable is chosen based on available data. Contraceptive services are measured based on existing or not health insurance, exposure to family planning information through the media, exposure

to family planning information from health workers, field staff visits, and counseling services.

All data is collected by ask the respondent directly according to the list of questions. Survey data were processed univariately and bivariately to determine the trend of contraceptive use in the city of Denpasar. Data analysis was performed by chi-square test to obtain an accociation of each factor.

3. RESULTS AND DISCUSSION

The survey data is presented in Table 1, Table 2, Table 3 and Tabel 4. In Table 1, it was found that the majority of respondents aged 35-44 years (38.4%), had a number of living children ≤ 2 (69.2%), the education level of non-school mothers did not graduate from high school (61.6%) and work (61.6%).

In Table 2, there were 59.7% of WRA in Denpasar City who were using contraceptive method and 13.0% had used family planning. About 59.1% use modern contraceptive (the pill, condoms, injectables, implants and IUDs female and male sterilisation and as many as 0.6% use traditional contraceptive (periodic abstinence, withdrawal, and various folk methods such as strings and herbs). The types of modern contraceptive used were IUD (41.16%), injections (34.9%), PIL (12.2%), female surgery method of 6.8%, condoms (3.2%), implants (1.24%) and the male operating method of 0.52%. Most family planning services are carried out in Public Health Center (PHC), which is 18.9%, hospitals are 15.7%, private doctors are 15.4%, and clinics are 1.51%. The reason of WRA does not use family planning is fear of side effects as much as 7.4%, reasons for fertility of 5.7%, being pregnant at 3.8%, incapable of 0.1%, not knowing by 0.1%, and disagreeing about family planing method by 0.2%.

Table 1. Distribution of frequency characteristics of respondents

Variable	n= 1.777	%
<i>Mother age (years)</i>		
15-24	201	11.3
25-34	604	34.0
35-44	682	38.4

Variable	n= 1.777	%
45+	290	16.3
<i>Parity</i>		
≤2	1.229	69.2
>2	548	30.8
<i>Mother Education</i>		
No school- not graduating from high school	1.094	61.6
Graduated from high school	463	26.1
Higher Education	220	12.3
<i>Mother Occupation</i>		
No Occupation	682	38.4
Worker	1.095	61.6

Data source: BKKBN Propinsi Bali (2018)

In Table 3, it was found that the proportion of WRA that received good contraceptive services was 44.3% and the proportion of the most types of services was having health insurance (58.4%), not receiving family planning information from the media (58.9%), not getting information from health workers (73.5%), did not get field staff visits (96.5%) and did not receive counseling services (59.8%).

Table 2. Frequency Distribution of Contraceptive Use at WRA in Denpasar City

Contraceptive Method used	n=1.777	%
<i>Have used</i>		
Yes	231	13.0
No	1.546	87.0
<i>Using contraceptve method</i>		
Yes	1.061	59.7
No	716	40.3
<i>Types of contraception (n=1.061)</i>		
Modern contaceptive method	1.055	59.1
Tradisional contraceptive method	6	0.6
IUD	435	41.16
Injection	368	34.9
PIL	128	12.2
Female surgery method	72	6.8
Condom	34	3.2
Implant	13	1.2
Male surgery method	5	0.5

Data source: BKKBN Propinsi Bali (2018)

In Table 4, there was a significant difference in proportion between family planning services with maternal age, number of living children, maternal education level, and maternal occupation ($p \leq 0.01$).

The proportion of WRA who used contraception method in this study was found to be 13.0% and those currently using 59.7%. This figure is lower than the 2012 rate of contraception in Indonesia, which is 61.9% (BPS, 2018). The proportion of contraceptive use in Denpasar City is also lower than the proportion of contraceptive use in the World which is 63%, and in Asia that is equal to 66% [BKKBN, 2018]. Another study conducted in the women of reproductive age group in Ogbomoso, Oyo State, Nigeria, reported that the prevalence of contraceptive use is 49.7% (Adeyemi, Olugbenga-Bello, Adeoye, Salawu, Aderinoye, & Agbaje, 2016).

In this study it was found that the type of modern contraception used by WRA was 59.1%. When compared to the contraception use in other developing countries such as in the City of Ogbomoso, Oyo State, Nigeria, the modern contraception used in the city of Denpasar is lower which found that the methods being used were the traditional type 5.9%, natural type 3.0%, and modern types 91.1% (Adeyemi et al., 2016). The use of modern contraceptive methods in some countries by couples of reproductive age who want to prevent pregnancy remains low (Bahri et al., 2016). Less than half of total requests for family planning use modern methods in 45 countries in 2017 (United Nations, 2017). The 2015-2019 RPJM targets an increase in the use of the Long-Term Contraception method at WRA ages 19-49 from 18.3% to 23.5%. This figure has not been reached where the use of modern contraceptive method in 2012 was 10.6% and in 2017 it was 13.4% (Badan Pusat Statistik, 2018).

Table 3. Proportion of family planning services at WRA in Denpasar city

Family planning services	n=1.061	%
Good	470	44.3
Poor	591	55.7
<i>Thype of Services</i>		
<i>Health insurance (Insurance)</i>		
Have health insurance	441	41.6
Have not health insurance	620	58.4
<i>Get contraceptve information through the media</i>		
No	436	41.1
Yes	1.047	58.9
<i>Get contraceptve information through health worker</i>		

Family planning services	n=1.061	%
No	780	73.5
Yes	281	26.5
<i>Field staff visit</i>		
No visited	1.024	96.5
Visited	37	3.5
<i>Counselling Services</i>		
Yes	426	40.2
No	635	59.8
<i>Place of Services</i>		
PHC	200	18.9
Hospital	166	15.7
Private doctor	163	15.4
Clinic	532	50.0
<i>Reason to not use contraceptive method (n=716)</i>		
Fear of the side effect	289	40.4
Related to fertility	256	35.7
Having pregnancy	98	13.8
Not Agree with contraceptive method	2	0.2
Ignorance	71	9.9

Data source: BKKBN Propinsi Bali (2018)

The low use of contraceptive methods has an impact on the number of family members being financed. The large number of family members is

associated with low quality of life such as low access to education, nutritional intake and poor health outcomes. This will affect the smart city indicator, namely smart people (Liang, 2018).

In this study it was found that family planning services at WRA were mostly poor (55.7%). Most of the WRA had health insurance (58.4%), did not receive family planning information from the media (58.9%), did not receive information from health workers (73.5%), did not receive field staff visits (96.5%) and did not receive counseling services (59.8%). Factors related to contraceptive services were found, including maternal age, number of living children, maternal education level and working mother's status ($p \leq 0.01$). This was also found in research on the use of contraceptive device services in couples of childbearing age at the Tamalanrea Makassar Health Center who found that the factors related to the use of contraceptive services were age ($p = 0.009$), education ($p = 0.046$), and provision of information ($p = 0.036$) (Akib, 2019).

Table 4. Differences in the proportion of family planning services based on the characteristics of the respondents

Variabel	Family planning services				P <0,05
	Good		Poor		
	n	%	N	%	
<i>Mother age (years)</i>					0.000
15-24	114	56.8	87	43.2	
25-34	389	64.5	215	35.5	
35-44	473	69.4	209	30.6	
45+	153	52.9	137	47.1	
<i>Parity</i>					0.000
≤2	751	61.1	47	38.9	
>2	379	69.2	8169	30.8	
<i>Mother Education</i>					0.000
No school-not graduating from high school	715	65.4	379	34.6	
Graduated from high school	289	62.4	174	37.6	
Higher Education	125	57.0	95	43.0	
<i>Mother Occupation</i>					0.000
Without Occupation	440	65.4	242	34.6	
Worker	648	62.5	411	37.5	

Data source: BKKBN Propinsi Bali (2018)

Age is one of the factors that influence a person's decision to use contraception (Sumartini & Indriani, 2016). The women who in lower than 20 years is a phase of postponing pregnancy, age 20-35 years is a phase of spacing and age > 35 years is a phase to end pregnancy (Kementrian Kesehatan RI, 2014). Apart from age, the number of surviving children is also a determining factor in contraceptive use (Khraif, Salam, Al-Mutairi, Elsegaey, & Ajumah, 2017). The number of children a mother has is related to contraceptive use status because the mother who has more than two children will tend to start limiting the number of children and will be different from the new mother who has one or two children (Achana, Bawah, Jackson, Welaga, Awine, Asuo-Mante, Oduro, Awoonor-Williams, & Phillips, 2015). In this study it was also found that the level of education also influenced the contrast service received by WRA (Rizali, Ikhsan, & Salmah, 2016). Higher education increases the knowledge of women in the selection of contraceptives/tools that are more effective according to their needs (Pazol, Zapata, Tregear, Mautone-Smith, & Gavin, 2015). However, when the level of education is getting higher, there is a decrease in the use of contraceptives due to their increased knowledge about the side effects of contraceptives that make women choose not to use modern contraception (Alege, Matovu, Ssensalire, & Nabiwemba, 2016).

Mother's work was also found to be related to contraceptive services received by WRA. Working mothers have the opportunity to reduce the use of contraception because of the possibility of occurring because working mothers feel they are able to pay for the children's living needs as a result of strong income so that mothers do not limit births by not using contraception (Alano & Hanson, 2018). Workers acceptors are assumed to have views and knowledge about various methods of contraception and the development of the latest information on the effectiveness and side effects of contraception (Rizali et al., 2016; Utami & Indreswari, 2013). The success of family planning services will have an impact on the large number of family members financed. The ideal number of family members enables achieving a better quality of life, such as nutritional needs, access to health services or education fulfilled (Fitrianiingsih & Melaniani, 2016; Liang, 2018). At present, the

problem of lack of health workers in health services is addressed by digital health services, including family planning service (Boulos & Al-Shorbaji, 2014). But there is no data yet to report how much impact the digital health service has on the coverage of health programs including the coverage of family planning services (Hopkins, 2019). This study uses secondary data which certainly has limitations where the available data is designed for different purposes so the variables analyzed are also limited to available data.

4. CONCLUSION

The low utilization of family planning services is related to the quality of life of women of reproductive age and is a barrier to smart city ignition. In our study, as many as 55.7% of family planning services are in the poor category, due to not having health insurance (41.6%), not getting family planning information through the media (41.1%), not getting information from health workers (73.5%), not getting home visits (96.5%) and did not receive counseling services (59.8%). Family planning services are related to age, number of children, mother's education and mother's occupation ($p < 0.05$). Need to improve the quality of contraception services, through easy access to get contraceptive services so that the coverage of WRA who use contraception increases, the population can be reduced and the quality of life of can be improved

5. REFERENCE

- Achana, F. S., Bawah, A. A., Jackson, E. F., Welaga, P., Awine, T., Asuo-Mante, E., Oduro, A., Awoonor-Williams, J. K., & Phillips, J. F. (2015). Spatial and Socio-Demographic Determinants of Contraceptive Use in The Upper East Region of Ghana. *Reproductive health*, 12(1), 29.
- Adeyemi, A. S., Olugbenga-Bello, A. I., Adeoye, O. A., Salawu, M. O., Aderinoye, A. A., & Agbaje, M. A. (2016). Contraceptive Prevalence and Determinants Among Women of Reproductive Age Goup in Ogbomoso, Oyo State, Nigeria. *Open Access Journal of Contraception*, 7, 33.

- Akib, A. (2019). Faktor yang Berhubungan dengan Pemanfaatan Pelayanan Alat Kontrasepsi Kb pada Pasangan Usia Subur di Puskesmas Tamalanrea Kota Makassar 2019. *Jurnal Farmasi Sandi Karsa*, 5(1), 71-83.
- Alano, A., & Hanson, L. (2018). Women's Perception About Contraceptive Use Benefits Towards Empowerment: A Phenomenological Study in Southern Ethiopia. *PloS one*, 13(9). Doi: 10.1371/journal.pone.0203432
- Alege, S. G., Matovu, J. K., Ssensalire, S., & Nabiwemba, E. (2016). Knowledge, Sources and Use of Family Planning Methods Among Women Aged 15-49 Years in Uganda: A Cross-Sectional Study. *Pan African Medical Journal*, 24(1). Doi: 10.11604/pamj.2016.24.39.5836. 1
- Alyahya, M. S., Hijazi, H. H., Alshraideh, H. A., Al-Sheyab, N. A., Alomari, D., Malkawi, S., Qassas, S., Darabseh, S., & Khader, Y. S. (2019). Do Modern Family Planning Methods Impact Women's Quality of Life? Jordanian Women's Perspective. *Health and quality of life outcomes*, 17(1), 154. Doi: 10.1186/s12955-019-1226-6
- Avasarala, K. (2009). Quality-of-Life Assessment of Family Planning Adopters Through User Perspectives in The District of Karimnagar. *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*, 34(1), 24. Doi: 10.4103/0970-0218.42374
- Badan Pusat Statistik. (2018). *Survei Demografi dan Kesehatan 2017*. Jakarta.
- Bahri, N., Tohidinik, H. R., Bilandi, R. R., Larki, M., Hooshangi, F., & Soltanian, M. (2016). The Relation Between Contraception Methods and Quality of Life. *Epidemiology, Biostatistics and Public Health*, 13(4). Doi: 10.2427/11986
- Bailey, M. J. (2013). Fifty Years of Family Planning: New Evidence on The Long-Run Effects of Increasing Access to Contraception: National Bureau of Economic Research.
- Best, K. (1998). Contraception influences quality of life. *Network (Research Triangle Park, NC)*, 18(4), 6.
- BKKBN Propinsi Bali. (2018). *Studi Ketersediaan Alat Kontrasepsi pada Faskes di Era JKN Propinsi Bali Tahun 2017*. Badan Kependudukan dan Keluarga Berencana Nasional, Propinsi Bali.
- Boulos, M. N. K., & Al-Shorbaji, N. M. (2014). On the Internet of Things, Smart Cities and The WHO Healthy Cities. *International Journal of Health Geographics*, 13(1), 10. Doi: 10.1186/1476-072X-13-10
- Fitrianiingsih, A. D. R., & Melaniani, S. (2016). Faktor Sosiodemografi yang Memengaruhi Pemilihan Metode Kontrasepsi. *Jurnal Biometrika dan Kependudukan*, 5(1), 10-18. Doi: 10.20473/jbk.v5i1.2016.10-18
- Hopkins, J. (2019). My Choice Revitalizing family planning efforts in Indonesia. from <https://ccp.jhu.edu/projects/family-planning-indonesia/>
- Kementrian Kesehatan RI. (2014). *Pedoman Manajemen Pelayanan Keluarga Berencana*. Jakarta: Kementerian Kesehatan Retrieved from <http://kesga.kemkes.go.id/images/pedoman/Pedoman%20Manajemen%20Pelayanan%20KB.pdf>.
- Khraif, R., Salam, A. A., Al-Mutairi, A., Elsegaey, I., & Ajumah, A. (2017). Dynamics of contraceptive use: A study of King Saud University women staff, Riyadh. *Middle East Fertility Society Journal*, 22(1), 18-26. Doi: 10.1016/j.mefs.2016.09.006
- Liang, Y. (2018). *Quality of Life-Impacts from the Family Planning Policy in China*. The University of Waikato. Retrieved from <https://researchcommons.waikato.ac.nz/handle/10289/11749>
- Pazol, K., Zapata, L. B., Tregear, S. J., Mautone-Smith, N., & Gavin, L. E. (2015). Impact of Contraceptive Education on Contraceptive Knowledge and Decision Making: a systematic review. *American journal of preventive medicine*, 49(2), S46-S56. Doi: 10.1016/j.amepre.2015.03.031

- Rizali, M. I., Ikhsan, M., & Salmah, A. U. (2016). Faktor yang Berhubungan Dengan Pemilihan Metode Kontrasepsi Suntik di Kelurahan Mattoangin Kecamatan Mariso Kota Makassar. *Media Kesehatan Masyarakat Indonesia*, 9(3), 176-183.
- Schoemaker, J. (2005). Contraceptive use among the poor in Indonesia. *International Family Planning Perspectives*, 106-114. Doi: 10.1363/3110605
- Slater, A. M., Estrada, F., Suarez-Lopez, L., de la Vara-Salazar, E., & Campero, L. (2018). Overall User Satisfaction with Family Planning Services and Associated Quality Care Factors: A Cross-Sectional Analysis. *Reproductive health*, 15(1), 172. Doi: 10.1186/s12978-018-0615-3
- Solanas, A., Patsakis, C., Conti, M., Vlachos, I. S., Ramos, V., Falcone, F., Postolache, O., Pérez-Martínez, P. A., Di Pietro, R., & Perrea, D. N. (2014). Smart Health: A Context-Aware Health Paradigm Within Smart Cities. *IEEE Communications Magazine*, 52(8), 74-81. Doi: 10.1109/MCOM.2014.6871673
- Sucitawathi, I. A. D., Joniarta, W., & Dewi, Y. (2018). Konsep "Smart City" dan Tata Kelola Pemerintahan di Kota Denpasar. *Public Inspiration: Jurnal Administrasi Publik*, 3(1), 9-15.
- Sumartini, S., & Indriani, D. (2016). Pengaruh Keinginan Pasangan Usia Subur (PUS) dalam Penggunaan Metode Kontrasepsi Jangka Panjang. *Jurnal Biometrika dan Kependudukan*, 5(1), 27-34. Doi: 10.20473/jbk.v5i1.2016.27-34
- Tsouros, A. D. (1995). The WHO Healthy Cities Project: State of The Art and Future Plans. *Health promotion international*, 10(2), 133-141. Doi: 10.1093/heapro/10.2.133
- United Nations. (2017). *World Family Planning 2017- Highlights*. New York.
- Utami, F., & Indreswari, S. A. (2013). Konseling Pemilihan Alat Kontrasepsi Pada Wanita Pasangan Usia Subur Di Puskesmas Mangkang Semarang. *VISIKES: Jurnal Kesehatan Masyarakat*, 12(1).
- World Health Organization. (2019). Family planning /Contraception from <https://www.who.int/news-room/fact-sheets/detail/family-planning-contraception>