Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/13664
DOI URL: http://dx.doi.org/10.21474/IJAR01/13664

RESEARCH ARTICLE

DETERMINANTS OF UNMET NEED FOR FAMILY PLANNING METHODS AMONG MARRIED WOMEN OF REPRODUCTIVE AGE IN OMBADA LOCALITY, KHARTOUM STATE, SUDAN. 2019

Sarra E. Saied[1], Nada G.O. Ahmed[2], Elmuez E.A[3] and Egbal A.B.A. Karaig[4]

1. Monitoring and Evaluation- General Directorate of Primary Health Care, Federal Ministry of Health, Khartoum, Sudan.
2. Community Medicine and Public Health Consultant Global Health Development/EMPHNET, Amman, Jordon.
3. Director of Quality and Patient Safety, King Salman Hospital, Riyadh, KSA.
4. Community Medicine and Public Health Consultant, Planning Directorate, Federal Ministry of Health, Khartoum, Sudan.

Manuscript Info

Manuscript History
Received: 31 August 2021
Final Accepted: 30 September 2021
Published: October 2021

Key words:-
Family Planning, Ombada Locality, Reproductive Age, Sudan, Unmet Need

Abstract

Introduction: The unmet need for family planning reflects the gap between women's reproductive intentions and their contraceptive behavior. It's a useful indicator for tracking progress towards the target of achieving universal access to reproductive health.

Aim: This study aimsat measuringthe level of unmet need for family planning in Ombada locality to identify the determinants that affectutilization of FP methodsand to assessthe readiness of the public health facilities to the provision of FP services.

Methods: The study was a descriptive cross-sectional health facility and community-based studyusinga multistage sampling technique.The study collected data from married women of reproductive age (15-49 years)and from the public health facilities providingfamily planning services in the study area using structured questionnaire and checklist respectively. The data were analyzed using the Statistical Package for Social Sciences version20.

Results: Currently users for family planning methods were (21.55%). The total unmet need for family planning was high and measured as (39.26%), while the total demand for family planning was (60.8%). Factors such as age, age at marriage, living children, knowledge about family planning methods and discussion with husband were found to be significantly related to the high total unmet need. Major reasons for the non-use of family planning methods were husband/family objection, fear of side effects and a lack of knowledge about family planning methods. Assessment of health facilities revealed poor infrastructure readiness.

Conclusion: Women in the surveyed locality are still not empowered regarding their reproductive health choices, as they are still under the control of husbands and families concerning the use of contraceptive methods. In addition, the lack of counsellingcomponent, which was the weakest link in the provision of family planning services, lead to voluntary or un-voluntary avoid of using FP methods, or adopting unprofessional sources or methods as alternatives. Thus, policymakers

Corresponding Author:- Egbal A.B A Karaig
Address:- Monitoring and Evaluation- General Directorate of Primary Health Care, Federal Ministry of Health, Khartoum, Sudan.

and directorates' managers have to carefully consider such findings when planning for FP interventions.

Introduction:-

Unmet need (UMN) for family planning (FP) methods defined as married women of reproductive age (15-49) who are fecund and sexually active but are not using any method of contraception, and report not wanting any more children or wanting to delay the next child (1).

This definition was expanded to two definitions according to woman's desire towards pregnancy;women who want no more children are considered to have "UMN for limiting" whereasthose who want children two or more years in the future or are undecided whether/whenthey want a child, are considered to have "UMN for spacing ([ii],[iii])

UMN for FP reflects the gap between women's reproductive intentions and their contraceptive behavior. It's a useful indicator for tracking progress towards the target of achieving universal access to reproductive health.

Where UMN for FP in developing countries fulfilled, an additional 54 million unintended pregnancies would be prevented, including 21 million unplanned births, 26 million abortions (of which 16 million would have been unsafe) and seven million miscarriages (iv). This would also prevent 79,000 maternal deaths and 1.1 million infant deaths (v).

Globally 885 million women of reproductive age (15-49) in developing regions want to avoid pregnancy, as estimated by the World Health Organization ([vi]), 214 of them have UMN for contraception. In Sub-Saharan Africa alone, 58 million women haveUMN for FP, and each year there are eighty million unintended pregnancies and forty million abortions worldwide. Every day almost 800 women and girls die of pregnancy-related complications, 99 per cent in developing countries and nearly all preventable; For every woman who dies, 20 or more experience serious complications ([vii]).

In Sudan, the national maternal mortalityand reproductive health indicatorsare remaining among the highest in the world. Sudan household survey in 2010 reported Maternal Mortality Ratio as 216/100,000 Live Birth. The Contraceptive prevalence rate (CPR) was stagnant at around 8% ([viii]) for almost the last two decades with minimal improvement in 2014 reaching 12.2%. The UMN for FP in 2010 was 28.9% and slightly decreased by up to 26.6% in 2014([ix]). In Ombada locality, coverage by FP services and ante-natal care first and fourth visits (19.7%, 68.5%, 51.5%) respectively([x]).

This situation is a reflection of thepoor benefit of FP services at States and Localities levels. All the efforts were directed toward increasing theuse of contraceptive without investigating the hidden causes of non-use despite its availability.

This study aimsatstudying the factors affecting the UMN for FP methods among married women in Ombada Localitythrough measuringthe level of UMN for FP, identify determinants that affect utilization of FP methods, and assessing the readiness of the public health facilities to the provision of FP services in the studied locality.

Methodology:-

Study Design and area:

Thestudy was a descriptivecross-sectional both community and health facility-based study, conducted in Ombada locality.

Ombada locality is one of the seven localities of Khartoum State with the largest area (2,695 km^2). It consists of 19 administrative units and 62 segments (Hay), The locality is characterized by high population density, with a population of about 992,00 according to the 2008 census, which is equivalent to one-third of Khartoum State in terms of population density. A mixture of different Sudanese tribes and foreign nationalities composes the inhabitants of Ombada locality([xi]).

The study population were married women of reproductive age (15-49 years) living locality, and the health care facilities providingFP services in Ombada locality, Khartoum State, in the period from April to May 2019.

Sample size and sampling:
A multistage sampling technique was used. Ombada locality was purposively selected, as it registered the lowest coverage by CPR in Khartoum State. All the 62 segments (Hays) in Ombada locality have been selected. Households with married Women of reproductive age 15- 49 years had been randomly selected and enrolled in the study if the Women was aSudanese residing in Ombada locality and currently marriedat the time of the study

The sample size for the Households/ womenwas calculatedat 680, using the formula: $n=Z^2PQ*deff/d^2*RR$, where:**n**= sample size, **Z** = value from standard normal distribution corresponding to desired confidence level (Z=1.96 for 95% CI), **P** = Estimated proportion of UMN for FPat the locality level (not known)=0.5, **q (1-p)** 1- 0.5 =0.5, **d** = desired margin of error= 0.05, **deff**(Design Effect) taken as=2and RR (Response Rate)=0.95.

The sample size was equally distributed between the 62 segments.In each segment, a systematic sampling method was used to select the households after calculating the sampling interval. The starting point was randomly selected at first (coin used), then the data collection team moved around the houses to the right based on the sampling interval. If any selected household has no eligible women, the next house was visited. In case of the presence of more than one eligible woman in the selected household found, the lottery method was used to choose one eligible. Similarly, in case of the absence of the eligible women from the household, two times revisit was done. All health facilities providingFP services in the study area wereassessed.

Data collection methods and tools
The data was collected from the women throughface-to-face interviews, using a structured close-ended, pretested questionnairedeveloped by the researcher. A checklist was used to assessthe health facilities that providing FP methods.The checklist was adapted from the UNFPA facility assessment for reproductive health commodities and services assessment tools.The study variables included the UMN for FP methods as the dependent variable and the Socio-demographic factors, Knowledge of FP services, Services accessibility and quality; Counseling and interpersonal relations were the independent variables.

Data analysis:
The data was collected, coded, cleaned, and entered using the (SPSS) version 20. Data analyzed according to the objectives. Data were analyzed in the forms of frequency tables and by inferential analysis in forms of univariate analysis to determine the association between variables.

Ethical considerations
The study received ethical clearance from the Sudan Medical SpecializationBoard (SMSB), and the Ministry of Health, Khartoum State. Anagreement from Ombada locality health affairs was taken. A written and informed consent was taken from participants before the Questionnaire filling, they were informed that their participation was voluntary and that their opinions would not generate any harm. Participant's confidentiality, privacy and dignity were also guaranteed; also, the information obtained would remain strictly confidential.

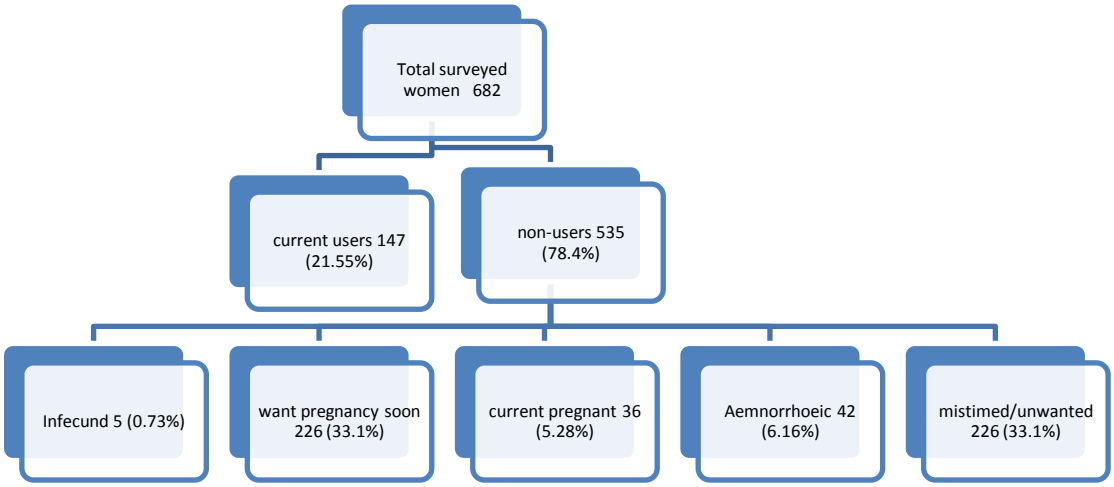
Results:-
The study was conducted in Ombada locality wheresix hundred and eighty-two questionnaires from 62 clusters, were fully completed with targeted participants giving a 100% response rate.Of the 60 health facilities serving the study area, twelve health facilities exempted from the sample as they weren't providing FP services at the time of the survey.

The majority of respondents were between age groups: (35-39), (25-29) and (30-34) years (26.2%, 26% and 25.07% respectively), (mean 30.1, S.D 1.26). More than one-third of the respondents (38.9%) complete their elementary/primary education, and the majority of participants (86.4%) were house wives. Regarding to monthly income, 39.1% of the participants have a monthly income of 1000-4999 Sudanese Geneh. Two–third of the participants (67.9%), got married at an age between 15-24 years. About forty-one per cent of respondents got pregnant 1-3 times during their marriage period(mean 2.8,S.D 0.802).

In this study, about a quarter of women who participated in the study had one living child. Most women (63.3%) didn't go through an experience of abortion.

The majority of respondents (93.5%), heard about FP, where the main source of respondents' knowledge was health cadres (64.6%), followed by different media channels; TV, radio, newspaper and magazines (17%,15% and 9% respectively).Most respondents (61%), discussed with their husband's regarding FP methods use. The study showed, that near to quarter of participants (21.3%), didn't use FP methods due to the objection of their husbands or families, while (19.8%) were preferred to adopt exclusive breastfeeding as FP method rather than modern ones. Those who never heard about FP, and those who didn't use due to their fear of contraceptives side effects were equally by (16%). Ten per cent of participants didn't believe in FP.

Total unmet need and total demand for FP



Total unmet need=6.16+33.1%=39.26%
Total demand for family planning= 39.26%+21.55%=60.81%

Distribution of women of reproductive age (15-49) in Ombada locality 2019, by prevalence of total unmet need and total demand for family planning in Ombada locality, Khartoum State, Sudan, 2019

The total unmet need (39.26%)was calculated as the summation of those who had Amenorrhea and those who hadmistimed/unwanted pregnancy.Whereas the demand for FP(60.8%) was calculated as the total UMNplus thecurrent users.

Services accessibility and quality

More than half of the women who participated in the study (53.1%), got their FP methods from public health care facilities, compared by (40.1%) who got it directly from the pharmacies. The private health facilities and health cadres became a minor option for women in the studying area to get their FP methods by (5.4% and 1.4% respectively). Regarding accessibility there was no wide variation, as (57.1%) reported that they use the car to get to H.F, compared to(42.9%), using public transportvehicles. Most of the respondents (74.2%) get the service they need in less than 30 minutes. The medical doctor was the main health care provider for FP (57.8%), followed by the health visitor (22.5%), and midwife (17.7%).Concerning the FP services fees, the study showed that a few percentage of respondents (6.1%), got the service free of charge whereas the majority (63.3%) paid for **it.**

Readiness of the health facilities to provide FP service

The total number health facilities checked was**48**. Average working days were about 3 days per week, and 6.7 working hours by day.

Table (1) showed that less than half of surveyed health facilities had one room for provision of all FP services (counselling and methods), compared with only 33.3% had two separate rooms. Protocols, guidelines and policies in FP were found in 27.1% and IEC/BCC materials in 43.8%. Almost all health cadres (97.9%) were received in-service training in FP. The majority of checked health facilities provide FP methods for free. The midwife was the main FP services provided by (75%), whereasSister Midwife and registrars reported the least FP provision by 14.58 and 12.5%respectively.

Table (1):- Readiness of the health facilities provides FP services in Ombada locality,Khartoum State, Sudan, 2019.

Variable	Category	Frequency	Percentage
Infrastructure	Separate rooms for counselling and method provision	16	33.3%
	One room to provide all FP services	32	66.7%
Guidelines / IEC materials	Availability of protocols and guidelines	13	27.1%
	IEC/BCC materials	21	43.8%
	Training of health cadres on FP	47	97.9%
Charging for FP services provision	Yes	10	20.8%
	No	38	79.2%
Health cadre	Consultant	13 H.F	27%
	Obs&Gynregister	3	12.5%
	MedDoctor	3	73%
	Medical assistant	25	52.08%
	Sis.Midwife	7	14.58%
	Healthvisitor	18	37.55%
	Assistant HealthVisitor	27	56.25%
	Midwife	45	93.75%

In univariate analysis, most of the variables were found to be associated with total UMN and statically significant; such as women age group (30-34) (p =0.02), knowledge of participants about FP methods (p=0.00) and discussion with husband (p=0.00), while secondary women education and experience of abortion showed no statistical significance. (Table 2)

Total UMN for FP in Ombada locality was associated with women's age at marriage (15-24) years (p=0.008). Number of living children was statistically associated with the total UMN in the surveyed locality (p=0.00). (Table 3)

Table 2:- Factors associated with total UMN for FP in Ombada locality, Khartoum State, Sudan, 2019.

Independent variables		UMN		Total	P-value
		No	**Yes**		
Age group (30 – 34)	Count	106	65	171	0.002*
	%	62.0%	38.0%	100.0%	
Education: Secondary	Count	7	4	11	0.099
	%	63.6%	36.4%	100.0%	
Knowledge about FP	Count	370	268	638	0.00**
	%	58.0%	42.0%	100.0%	
Discussion with husband	Count	268	124	392	0.00**
	%	68.4%	31.6%	100.0%	
Abortion	Count	137	111	248	0.028
		55.2%	44.8%	100.0%	

Table 3:- Factors associated with total UMN for FP in Ombada locality Khartoum State, Sudan, 2019.

UMN		N	Mean	S.D.	P-value
Age at marriage	No	414	19.31	4.116	0.008*
	Yes	268	18.44	4.138	
Live births	No	407	3.5455	2.23657	0.000*
	Yes	268	4.5261	2.31816	

Discussion:-

This study was conducted to explore determinant factors of UMN for FP methods among women in Ombada locality, Khartoum State. To do this, many factors were examined, relating both to the women of reproductive age and the health care facilities that provide FP in the studied area. While women's education and experience of abortion had no significant association with total UMN, the study identified significant factors associated with the total unmet that could be of help to decision-makers for a better understanding of the provision and utilization of FP services.

This study measured the prevalence of thetotal UMN for FP methods among women of reproductive age in Ombada locality, which was found to be (39.26%) at the time of the study. While the total demand for FP by (60.8%). This indicator is greater than the national UMN indicator registered in 2014 (26.6%) (9), and the East Africa region UMN indicator (22%) in 2017 (8). These high UMN align with the total UMN (44.8%) measured in Kassala State in 2012([xii]), as the only published Sudanese study examining UMN for FP methods. This prevalence wasn't coherent with that reported in a study in Botswana where UNM was low as (9.6%) ([xiii]). This wide variation as mentioned in the study, due to women having access to a full range of contraceptive methods. The total UMN in Ombada Locality wasn't showed that statistically significant with women's education or experience of abortion.

The mean age of women who participated in the study was (30.1 years). In thisstudy, the age group (30-34 years) was statistically significant with the total UMN (p<0.002). This is in agreement with findings registered in Burundi ([xiv]) and a qualitative Guatemalan study showed the UMN decreased after the age of +35, as women reported their fear of having additional children may harm their health and threaten their financial ability to feed and care for already existing children ([xv]). This study was significantly associated with woman age at marriage in the age group (15-24) years (p=0.008). This was consistent and coherent with several studies studying this variable; E. Gurmu and D. Etana 2014 (xvi) and Razu 2018(xvii), while it contradicts the result reported by A. Ali and A. Okud (12), who's in their study, the women age at marriage wasn't statistically significant with UMN (p=0.75). Knowledge about FP has a strong association with UMN (p=0.00). This is consistent with a study conducted in different settings ([xviii], [xix],28). This significant association is supported by finding in the assessment of the health facilities, where 58.3% have one room for counselling and provision of FP method at once. Counselling is the backbone of FP services, during which the woman can get the necessary information (usage, possible side effects, and alternatives available) regarding the methods she uses or want to choose. Another factor was the availability of IEC/BCC material in less thanhalf checked HFs. Which founded to be (43.8%).These materials are useful during counselling and for providing additional information, so as during waiting time to get the service, and be reflected positively on the service outcome, especially if considering the specificity of the target community, and mix between different types of these materials to satisfy knowledge need.

In the studied locality, the majority of participant complete only their elementary/primary education, while 14.5% were illiterate, so the provision of visual and auditory materials may be better to attract participant's attention and create their demand for use of FP methods.

Live birth showed to be statistically significant affecting total unmet (p=0.00), this coherent with the study conducted in Ethiopia ([xx]). Regarding discussion with the husband, it was showed to be statistically significant with total UMN (p=0.00) in this survey, so as in the Pakistani study ([xxi]).

Regarding the major determinants for the non-use of FP methods, husband disapproval was an influential determinant for FP (21.3 %). this agrees with different studies in Burundi and Debre Berhan Town, Amhara, Ethiopia (14, [xxii]) that revealed that husband approval for use of contraceptive, help to decrease women UMN. Husband disapproval reflects the gap between males and FP issues, as different interventions targeting females, although FP services required couple consensus regarding their reproductive choices. (19.8%) of participants in the

surveyed areas rely on natural methods of FP such as "exclusive breastfeeding", but they are calculating as having UMN. This percentage match with a study conducted in India and found that the use of traditional methods was 18 per cent in West Bengal (xxiii). But the situation was different, where R. Al Kindi and H. Al Sumri reported in their study, that breastfeeding was the least used method (1.4%) among women investigated ([xxiv]). The study found (16.2%) refuse to useFP methods due to fear of contraceptive side effects. This percentage is much less than that reported in Cameroon, where 37.3% of urban resident participants reported their non-use of contraception due to fear of contraceptive side effect ([xxv]). Women who didn't know about FP methods were reported by (16.2%) out of non-users. While in a study conducted in Aseer Region, Saudi Arabia (68%) they didn't know from where to obtain FP methods([xxvi]). Although the health cadres provide FP services found to be available in a sufficient percentage; midwives(93.75%), medical doctors (73%) and health assistants (52%), but (61.7%) of them, reported that their last training in FP was more than a year ago from the time of the survey, in addition to lack of guidelines and FP protocols which found only in (27%) of checked HFs, this may create a gap, leaving the health care provider in a weak position to update the client with the needed information as to clarify unclear and query questions.

Assessment of the health facilities found thatthere were 12 HFs (20%) nonfunctioning during the time of the study, this gap which needs more investigation will lead to the lossof women who are targeted by FP services, as they will get it from other non-professional sources. A considerable percentage of participants (40%), reported that they got their method directly from pharmacies, where the counselling part is the weakest. There was no major gap regarding the availability of FP methods. Ten health facilities (20.8%), reported their charging for the provision of FP methods which is contradicting to FMOH policy, that the State has to provide FP methods free of charge ([xxvii]).

Limitation of the study:
There were few limitations in the studywhere the men were not included as participants to understand their perception towards FP and the issue ofUMN, on the other hand, the study did not assess separately UMN for spacing or limiting because the tool doesn't have a parameter to assess these variables.

Conclusion:-

The study concluded that age, age at marriage, living children, and knowledge about FP methods and discussion with the husband were the major determinants of the UMN in the study area. In addition, Women in the surveyed locality were still not empowered regarding their reproductive health choices as they were still under the control of their husbands and families concerning the use of contraceptive methods. The public health facilities'readiness for providing FP servicesin Ombada locality, which was poor, contributed to the high UMN in a way or another, especially thecounsellingcomponent.

Involvement of men in their different position in FP programs and initiatives, improving the infrastructure of health facilities to ensure better provision of the services and strengthening counselling concept arethe backbone in FP services provision and hence improvement of the UMN indicator, Federal and States Ministries of health have to strive to address them.

Conflict of interests:
Authors declare no conflicts of interest.

Funding
This study was funded by the researchers own resources.

References:-

[1]Unmet need for family planning [Internet]. World Health Organization. 2019 [cited 31 October 2019]. Available fromhttps://www.who.int/reproductivehealth/topics/family_planning/unmet_need_fp/en/
[ii]Westoff C, Pebley A. Alternative Measures of Unmet Need for Family Planning in Developing Countries. International Family Planning Perspectives. 1981;7(4):126.
[iii]Westoff CF: New Estimate Of Unmet Need And The Demand for Family.
Planning. Dhs comparative Reports no. 14. Calverton, Maryland, USA: Marco
International Inc; 2006.
[iv]Choices not Chance. UNFPA Family Planning Strategy 2012-2020.

[v]S S, JE D. Adding It Up: Costs and Benefits of Contraceptive Services—Estimates for 2012 [Internet]. Guttmacher Institute. 2019 [cited 2 November 2019]. Available from: https://www.guttmacher.org/report/adding-it-costs-and-benefits-contraceptive-services-estimates-2012

[vi]. Who.int. 2019 [cited 28 February 2019]. Available from: https://www.who.int/news-room/fact-sheets/detail/family-planning-contraception

vii Singh S and Darroch JE, Adding It Up: Costs and Benefits of Contraceptive Services—Estimates for 2012, New York: Guttmacher Institute and United Nations Population Fund (UNFPA), 2012, http://www.guttmacher.org/pubs/AIU-2012-estimates.pdf

[viii]. United Nations, Department of Economic and Social Affairs, Population Division (2017). World Family Planning 2017 - Highlights (ST/ESA/SER.A/414).

[ix]Central Bureau of Statistics (CBS), UNICEF Sudan, Multiple Indicator Cluster Survey 2014 of Sudan, Final Report. Khartoum, Sudan: UNICEF and Central Bureau of Statistics (CBS), February 2016.

[x]Annual progress report, Mother And Child Directorate, Ministry Of Health – Khartoum State. 2018. the Republic of Sudan. Not published.

[xi]Annual Statistical Report, Planning Directorate, Khartoum State 2018. Not published

[xii].Ali A, Okud A. Factors affecting unmet need for family planning in Eastern Sudan. BMC Public Health. 2013;13(1).

[xiii] Letamo G, Navaneetham K. Levels, trends and reasons for unmet need for family planning among married women in Botswana: a cross-sectional study. BMJ Open. 2015;5(3):e006603-e006603.

[xiv]. Nzokirishaka A, Itua I. Determinants of unmet need for family planning among married women of reproductive age in Burundi: a cross-sectional study. Contraception and Reproductive Medicine. 2018;3(1).

[xv]. Ward, V., Bertrand, J. and Puac, F. Exploring Sociocultural Barriers to Family Planning Among Mayans in Guatemala. International Family Planning Perspectives, 1992;18(2):.59.

[xvi] Gurmu E, Etana D. Age at First Marriage and First Birth Interval in Ethiopia: Anaysis of the Roles of Social and Demographic Factors. African Population Studies. 2014;28(3).

[xvii] Razu S. Determinants of Early Marriage Among Women: An Experience from Rural Bangladesh. Gender Studies. 2018;17(1):127-136.

[xviii]Tilahun T, Coene G, Luchters S, Kassahun W, Leye E, Temmerman M et al. Family Planning Knowledge, Attitude and Practice among Married Couples in Jimma Zone, Ethiopia. PLoS ONE. 2013;8(4):e61335.

[xix]Biney, A.A.E. Exploring Contraceptive Knowledge and Use among Women
Experiencing Induced Abortion in the Greater Accra Region, Ghana. African Journal of Reproductive Health. 2011; 15(1): 37-46.

[xx] Hailemariam A, Haddis F. Factors Affecting Unmet Need for Family Planning In Southern Nations, Nationalities and Peoples Region, Ethiopia. Ethiopian Journal of Health Sciences. 2011;21(2).

[xxi] Punjani N. Determinants Associated With Unmet Need for Family Planning in Pakistan. Journal of Womens Health, Issues and Care. 2018;07(02).

[xxii]Worku S, Ahmed S, Mulushewa T. Unmet need for family planning and its associated factor among women of reproductive age in Debre Berhan Town, Amhara, Ethiopia. BMC Research Notes. 2019;12(1).

[xxiii]Alate M. Use of Contraceptive Methods in India: Retro prospective Study. Journal of Medical Science And clinical Research. 2019;7(7).

[xxiv] Al Kindi R, Al Sumri H. Prevalence and sociodemographic determinants of contraceptive use among women in Oman. Eastern Mediterranean Health Journal. 2019.

[xxv]Ajong, A., Njotang, P., Yakum, M., Essi, M., Essiben, F., Eko, F., Kenfack, B. and Mbu, E. Determinants of unmet need for family planning among women in Urban Cameroon: a cross sectional survey in the Biyem-Assi Health District, Yaoundé. BMC Women's Health. 2016; 16(1).

[xxvi]Khalil, S., Alzahrani, M, Siddiqui, A. Unmet need and demand for family planning among married women of Abha, Aseer Region in Saudi Arabia. Middle East Fertility Society Journal. 2018;23(1), pp.31-36.

[xxvii]Reproductive Health Policy. Mother And Child Directorate. General Directorate Of Primary Health Care. Federal Ministry Of Health. Sudan 2010.