

The intention on Modern Contraceptive Use and Associated Factors among Postpartum Women in Public health institutions of Sodo Town, Southern Ethiopia 2019: Institutional Based Cross-Sectional Study.

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Abstract

Background: The postpartum period is an important transitional time for couples to put the decision on family planning utilization. However, women in Ethiopia are usually uncertain about the use of family planning during this period. This study was aimed to assess the intention of modern contraceptive use and associated factors among postpartum women attending the immunization clinic in Sodo Town.

Method: Institutional based cross-sectional study design with a sample size of 416 was conducted from May 25 to June 20, 2019. The data were collected by using a systematic random sampling technique of interviewer-administered questionnaires. Those candidate variables at Bivariate analysis with a p -value <0.2 were moved to the Multivariate logistic regression model to control potential confounding variables and P -value <0.05 at multivariate analysis was considered as a cutoff point

Results: A total of 416 postpartum women participated in the study yielding a response rate of 98.1 % and 291 (70%) of them had an intention on modern contraceptive use. The odds of intention on modern contraceptive use was higher among respondents who had secondary school education (AOR=2.052, 95%CI: 1.064-3.958) than participants with no formal education. It was also higher among antenatal care visit attendees (AOR=1.736,95%CI:1.021-2.951) than those did not attend antenatal care visit. Knowledgeable participants on modern contraceptive use were more likely intend to use (AOR=2.535, 95%CI: 1.499-4.282) than their counterparts. Besides, the odds of the intention of modern contraceptive use among postpartum women who had menses resumption were higher (AOR=2.047,95%CI:1.141-3.675)than those whose menses not resumed.

Participants who had husband approval were more likely to intend to use contraceptives (AOR=2.395,95%CI:1.501-5.458) than their counterparts.

Conclusion: The intention of modern contraceptives among postpartum women was low. Family planning providers should emphasize reducing barriers of intention like lack of education, knowledge, male partner approval, antenatal care visit and advise the impact of menses on fertility.

Plain English Summary

Globally, in the year 2019, 1.1 billion reproductive age women need family planning, that is, they are either 842 million current users of modern contraceptives and 80 million used traditional methods whereas the remaining 190 million women want to avoid pregnancy but do not use any contraceptive methods. , this study aimed to address the gaps and assess the intention of modern contraceptives use and associated factors among postpartum women in Sodo town. Institutional based cross-sectional study design with a sample size of 416 was conducted from May 25 to June 20, 2019. The data were collected by using a systematic random sampling technique of interviewer-administered questionnaires. The result of the response was analyzed using statistical software to identify which variables were associated with assess the intention of modern contraceptives use and associated factors among postpartum women in Sodo town.

Introduction

According to WHO Family planning is globally recognized as a key life-saving intervention for mothers and their children **(1)**. Globally, in the year 2019, 1.1 billion reproductive age women need family planning, that is, they are either 842 million current users of modern contraceptives and 80 million used traditional methods whereas the remaining 190 million women want to avoid pregnancy but do not use any contraceptive methods. There is also a significant variation in terms of contraceptive prevalence rate among overall methods ranging from 4.6% in South Sudan to 72.1% in Canada **(2)**.

Implementing postpartum family planning provision is an important strategy to reduce the unmet need for family planning. Postpartum women are among those with the greatest unmet need for family planning.

Therefore, postpartum family planning focused on the prevention of unintended and closely spaced pregnancies through the first 12 months following childbirth **(3)**. The postpartum period provides an opportune moment when women should be counseled on birth spacing and family planning. Contraceptive options should be discussed and contraceptive methods should be provided if requested **(4, 5)**

The delivery of postpartum family planning services plays a pivotal role in reducing maternal mortality and morbidity. Multi-country studies have shown that accessing family planning can decrease maternal deaths by as much as 40 percent, infant mortality by 10 percent and child mortality by 21 percent **(6,7)** and also found that the risk of maternal death increases as the number of children per women rises four or more **(8)**.

The London summit aimed to mobilize service deliveries to the rights of an additional 120 million women and girls in the world's poorest countries to use contraceptive without coercion or discrimination by 2020**(9)**. Achieving this ambition target enables to prevent 100 million unintended pregnancies, 50 million abortions, 21,200 childbirth-related and maternal deaths and 3 million infant deaths**(10)**. Ethiopia is one of the member states of the summit, working to achieve the targeted contraceptive prevalence rate of 55% by 2020**(11)**.

A study on postpartum contraceptive use among women in low and middle-income countries in the first year after delivery was low and desire for birth spacing and birth limiting was high **(12)**, yet the use of postpartum family planning methods previously is low**(13,14)** and risk of unintended pregnancy is high in postpartum period**(15-17)**.

In Ethiopia, the contraceptive prevalence rate among married women is varied from 5 percent in the Somalia region to 53 percent both in the Amhara region and Addis Ababa. The overall modern contraceptive prevalence rate in the country is 40 percent **(18)**. The unmet need among women in the extended postpartum period is 86 percent **(19)**.

A variety of literatures among the general population showed that factors like shifting from one method from to other contraceptive(20), poor support from husband(21), maternal age (20), maternal education(20,22,23), positive attitude to contraceptive use(22), occupation (23), knowledge of contraceptives (21,24), discussion on family planning with husband (20), myths and misconceptions (22), time of birth interval(21), joint fertility decision (23) and desire for live children(20) were some of the factors affecting the intention contraceptive use among reproductive-age women. However, the intention of contraceptive use in Ethiopia in general and in the study area in particular among postpartum had not studied extensively.

Therefore, this study aimed to address the gaps and assess the intention of modern contraceptives use and associated factors among postpartum women in Sodo town. The finding of this study could help the policy makers, programmers, planners and different stakeholders on family planning issues in developing strategies to minimize closer birth intervals and to maximize postpartum contraceptive users for maternal and child wellbeing.

Methods And Materials

Study area, design, and participation

Institutional based cross-sectional study design was employed in Sodo Town, Southern Ethiopia, which is 320 Km far from the capital city of Addis Ababa, from May 15 to June 10, 2019. The town was divided into four administrative sub-cities. The total population of the town in 2018, received from the town administrative office, was 182,607(93,139 males and 89,477 females) from these, 4963 were reproductive age group (15-49 year). Among the reproductive age group, there were 893 postpartum women in the town. Functioning health facilities in the town includes two hospitals (one governmental and one private), three health centers, 17 medium, and lower clinics and 17 health posts. All postpartum women who attended postpartum clinics in Sodo town public health institutions were considered as a source of the population whereas all postpartum women attended postpartum clinics in Sodo town public health institutions during the study period were the study population. Those postpartum women who attended postpartum clinic during the study period and selected with the sampling procedure were study units. All volunteer postpartum clinic attendant postpartum women who were available during the study period were included in the study. However, all postpartum women who were mentally and physically seriously ill during the study were excluded from the study.

Sample size and sampling procedures

The sample size was determined by using a single population proportion formula by considering the following assumptions: 50% of the prevalence of intention on modern contraceptive use to gain a maximum sample size for the study, 95% confidence level, 5% marginal error, and 10% non-response rate. Based on these, a total of 424 postpartum clinic attendant postpartum women were taken as a final sample size.

The total sample size was divided proportionally to the four health institutions based on their client flow. The proportionally allocated sample-sized was Wolaita Sodo Teaching and Referral Hospital=144, Sodo health center=123, Gandaba health center =95, and Geneme Health center= 62. After reviewing the postpartum registration book, the average flow of postpartum women attending the clinic for two months was taken to determine the sampling interval. Therefore, the average number of postpartum women attending post-partum clinic was 683 from all sites and yields the sampling interval of two. After selected the first participant by using the lottery method, the remaining were included every other (K=1.6) respondent from the list post-partum registration serial numbers until the final sample size was reached through the proportional allocation of each clinic.

Operational definitions

The intention of contraceptive use: refers to the desire of all women who were found within twelve months postpartum period and who did not use any modern contraception during the time of the survey, but reporting want to use any of modern contraceptives at some time in the future.

Knowledge of modern contraceptive: Knowledge index was built from the answers to 10 questions on modern contraceptives with Yes /No answers. After computing the mean score of knowledge questions; those who were above the mean score classified as good knowledge whereas lower than the mean score classified as poor knowledge.

Postpartum women: women who had live births within the past 1 year before the date of data collection.

Postpartum modern contraceptive use: When a postpartum woman reported actively using any modern contraception methods (pill, intrauterine device, injectable, condom [men or women], sterilization [men or women], or implants) during the 12-month following her most recent childbirth (14)

Data processing and analysis

The data were cleaned and entered using Epi-data version 3.1 and exported to SPSS version 24 for statistical analysis. Descriptive statics were done and presented in the form of tables and texts. Bivariate and multivariate models were used to assess the presence of any association between each independent variable and the dependent variable. Crude and adjusted odds ratios were used to know and ascertain any association between the independent and dependent variables while significance was declared using a 95% Confidence interval. Those candidate variables at Bivariate logistic regression with a p-value<0.2 were moved to the Multivariate logistic regression model for the dependent variables to control potential confounding variables. Those variables with P-value<0.05 at multivariate analysis were considered as statically significant to the intention of modern contraceptive use in this study.

Data Collection Tool, Quality, and Procedures

A structured face to face interviewer-administered questionnaire was used to collect the data by using every third interval of client exit from the postpartum clinic. The tool was prepared first in English and

translated to the local language (Woliatagna) and then translated back to the English language to keep internal consistency. The tool was adopted from a similar study conducted in Aksum Town (24). The questioner contains socio-demographic characters, knowledge of modern contraceptive, maternal and reproductive health characteristics and intention of future contraceptive use questions. Four diploma holder nurses and one Bachelor science holder health officers were recruited and trained for one day about data collectors and supervisors respectively. A pretest was conducted on 42 postpartum women at Bodditi town health center. Data were checked for completeness and consistency by the supervisors and principal investigator.

Results

Socio-demographic characteristics of postpartum women

Among the total of 424 women expected to be included in the study, 416 had participated with the response rate of 98.1 percent. Of these more than half of the respondents, 249(60%) were categorized under the age of 25-35 years, 105(25%) were 18-24 years and the remaining 52(15%) were greater than or equal to 36 years old. The mean age of the study participants was 25.84 with \pm SD 5.78. With regards to ethnicity, nearly three-fourth of the participants 290(70%) were Wolaita, and 97(23%) were Gurage and the remaining 27(7%) were other ethnic groups. More of the participants 159(38.2%) were Protestant, 112(26.9%) Orthodox, 109(26.2%) Muslim and 36(8.7%) were Catholic followers. Concerning marital status, the majority of postnatal care attendants 295(71%) were married and only 28(6.7%) were widowed.

Among the study subjects, 117(28.1%) had no formal educations whereas 112(27%), 122(29.3%) and 65(15.6%) had primary school level, secondary school level, and territory school level of education respectively.

In the case of occupation, more than one-third of the respondents 146(35.1%) postnatal women were private workers, 98(23.6%) were farmers, 86(20.7%) were government workers and the remaining 86(20.7%) were housewives. More than half of the study participants 258 (62%) had obtained an estimated monthly income of 601-1550 ETB whereas 24 (6%) of the respondents had <600ETB estimated monthly income (**See Table 1**).

Maternal and reproductive health characteristics of the study participants

The intention of modern contraceptive use The majority of the study participants 315 (75.7%) had two and above several children during the time of the study. Nearly one-third of the respondents, 101(24.3%) reported that they had only one child living with them. Two third (66.4%) of the study subjects had less than or equal to two living children. The majority of the respondents 261(62.7%) had antenatal care services. More than three-fourths of the study participants, 346(83.2%) had received family planning counseling throughout their lifetime. Three hundred twenty-six (78.4%) of the respondents had a previous history of postnatal care follow the visit. Slightly more than three-fourth, 316(78%) the respondents had

reported that they had a discussion postpartum family planning with their partners. The majority of postnatal women, 348 (83.7%) had husband approval of contraceptive and 334 (80.3%) had a previous history of contraceptive use. Three hundred sixteen (76%) of the respondents said that menses had resumed after recent birth, and 333 (80%) explained that sexual activity had resumed. In the case of a decision on contraceptive use, less than half of the respondents (47.1%) reported that they had jointly put the decision to use contraceptives with their husbands (**See table 2**).

More than two-third, 291 (70%) of the study participant expressed their intention to use modern contraceptives for the future. From those who desire to use contraceptive in the future, implants 125 (43%) were the most intended contraceptive method followed by injectables 62 (21.3%), pills 45 (15.5%), condom 41 (14%), IUCD 15 (5.2%), and tubal ligation 3 (1%). Concerning reproductive intention, the majority of the study participants 164 (56.4%) had intended to use contraceptive for spacing, limiting 84 (28.9%), want an additional child soon 37 (12.7%), and undecided about future 6 (2%). Half of the study participants 146 (50.2%) planned timing of contraceptive use of intention was between six weeks to six months followed by within six weeks 67 (23%), between six months to a year 42 (14.4%), above a year 25 (8.6%), and uncertain 11 (3.8%). One hundred twenty-five (30%) of the study participants had no intention to use modern contraceptives in the future. The main reason for not to use modern contraceptives in the future was husband refusal 56 (44.8%), want additional child 36 (28.8%), fear of side effect 20 (16%) and do not know about family planning 13 (10.4%).

Factors associated with intention of modern contraceptive use among postpartum women

On Bivariate analysis participants educational status, clients number of alive children, antenatal care follow up, previous postnatal care follow up, receiving counseling during antenatal care, discussion with partner about postpartum family planning, menses status after childbirth, sexual activity after birth, previous history of contraceptive use, husbands approval of contraceptive use and knowledge of postpartum contraceptive showed statistically significant association with intention of modern contraceptive use among postnatal women. On multivariate analysis, participants who had a secondary level of education, attending ANC follow up, menses status after birth, husbands' approval of family planning and knowledge of postpartum family planning was found to have statistically significant to the intention of modern contraceptive utilization among postnatal women. Participants who had a secondary level of education were 2 times more likely to intend to use modern contraceptives than participants who had no formal education (AOR=2.052, 95%CI:1.064-3.958). Respondents who attended antenatal care service were 1.7 times more likely to intend to use modern contraceptives than their counterparts (AOR=1.736, 95%CI:1.021-2.951). The study subjects whose menses resumed were 2 times more likely intend to use than participants whose menses did not resume (AOR=2.047, 95%CI:1.141-3.675). Postpartum women who had husbands' approval of family planning use were 2.4 times more likely to intend to use modern contraceptives than postpartum women whose husband did not approve family planning use (AOR= 2.395, 95%CI:1.501-5.458). Participants who had good knowledge about family planning were 2.5 times more likely to intend to use modern contraceptives than participants who poor knowledge about family planning (AOR=2.535:95%CI:1.499-4.282) (**See table 3**).

Discussion

The current study assessed the intention of modern contraceptive use and factors affecting it among postpartum women attending the immunization clinic in Sodo town. This study found that the prevalence of intention to use modern contraceptives among postpartum women was 70%. This finding is in line with that of a study conducted in Ghana where the magnitude of the intention of postpartum family planning was 70% (25). This similarity might be due to the similarity of participants in the two studies in some socio-demographic characteristics. For instance, the average age of the participants in this study was 25.84 years, and in the Ghana study, it was 25.6 years. Moreover, the similarity of the study design between the two studies was also another reason.

In the present study, the most preferred modern contraceptive intend to use by study participants were implants (43%) and injectables 16%. The result was in line with the studies done in America (26) revealed that 38% and 12% of postpartum women preferred to use implants and injectables respectively. There were also 19.2% of postpartum women who preferred to use implants whereas 18.4% of postpartum women intend to use injectables in Nigeria (27). This might be due to the government's intention towards long-acting modern contraception provision among which affects the intention of modern contraceptives uses among participants in the future.

The findings of the current study were higher than studies done in Ethiopia on the intention of long-acting and permanent methods of contraception and associated factors among married women(20-23) and findings from studies done in Nigeria (64%, 65%)(27,28). The discrepancy was due to the difference between the type of study design used, and the time gap of the current study with these studies done in Ethiopia and Nigeria. In addition to this, the studies in Ethiopia were focused on long-acting and permanent methods that have low service users at a national level.

On the contrary, the finding of this study was also less than studies done in Ethiopia (24, 29), and America 90% (26). The reason behind the lower magnitude of intention to use contraception was the difference in availability, accessibility, infrastructure, and socio-economic status between the present study, and a study done in America. There was also Because studies in Ethiopia were done on the major towns which enable clients to access adequate information and education as compared to the present study. This, in turn, contributes to the intention of using modern contraceptive use among study participants.

In the current study multivariate analysis showed that women with secondary education were more likely to intend to use modern contraceptives in the future than women with no formal education. This study is inconsistent with the studies done in Adigrat town and Goba town (21, 32). The finding was similar to studies done in Ethiopia (20,22,23,34) and Uganda (33). In EDHS 2019, 58 % of women with more than secondary education are using any contraceptive method compared with 32% of women with no education (18). The finding showed that the importance of female education to enhance female decision making on reproduction issue including family planning.

The findings of this study showed that postpartum women who had attended antenatal care were more likely to intend to use modern contraception than their counterparts. This finding was in agreement with studies done in Ethiopia (13), and Kenya and Zambia (34). This might be due to the more the women attended the antenatal care visit during pregnancy the more they heard and gained postpartum counseling which intern contributes to the intention of modern contraception after delivery.

In this study, postpartum women resumption of menses were more likely to intend to use modern contraception than those women whose menses was not resumed. The finding of the present study is consistent with studies conducted in Ethiopia(13,14,35), Malawi and Kenya (36,37). The possible explanation was because most women perceived that the risk of pregnancy is related to only menses resumption, and might not take family planning during the postpartum period.

Postpartum women who had good knowledge of contraceptives were more likely to intend to use modern contraceptives than women with poor knowledge of contraceptives. This finding is similar to studies done in Ethiopia (21, 24). This could be due to the importance of knowledge on recognizing contraception which intern contributes to the intention of using contraceptive methods.

The current study revealed that postpartum women with husband approval of family planning were more likely to intend to use modern contraceptive than their counterparts. This finding is in agreement with studies done in Ethiopia(20,24) and Ghana(25). The possible explanation was briefly indicated that the importance of focusing on male involvement in family planning efforts because of partners play a key role in deciding future contraceptive methods for their wives.

Conclusion

The finding of this study demonstrated that the intention of modern contraceptive use among postpartum women was low. It is therefore highly recommended that the intention of modern contraceptives use and initiation of family planning provision among postpartum women should become a standard of service delivery to achieve the 2020 goal set of Ethiopia as a country. Therefore, attending antenatal visits, maternal educational level, husband approval of family planning, resumption of menses after birth, and knowledge about modern contraceptives affect the intention of modern contraceptive use among postnatal women attending immunization clinics positively. Family planning providers should emphasize reducing barriers of intention like lack of education, knowledge, male partner approval, antenatal care visit and advise the impact of menses on fertility.

Abbreviations

ANC=Antenatal Care, AOR=Adjusted Odd Ratio, EDHS=Ethiopian Demographic Health Survey, IUCD=Intra Uterine Contraceptive Device, SPSS=Statically Package For Social Science, WHO=World Health Organization

Declarations

Availability of data and materials

The data that support the findings of this study are available but some restrictions may apply to the availability of these data as there are some sensitive issues. However, data are available from the corresponding authors upon reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Ethical consideration

Ethical clearance letter was obtained from Wolaita Sodo University, College of Health Sciences; Department of Midwifery institutional review board. Written permission letters were obtained from the Sodo town health office. Participants were informed about the objectives of the study and reassured about the confidentiality of the findings. A written consent was obtained from each participant.

Authors' contributions

NA was involved in the conception, design, analysis, interpretation, report and manuscript writing. KA was involved in drafting the article, design, analysis, interpretation and report writing. Both authors contributed to data analysis, drafting or revising the article, gave final approval of the version to be published, and agree to be accountable for all aspects of the work.

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Tables

Table 1. Socio demographic characteristic of postpartum women in public health institution of Sodo town, Southern Ethiopia 2019 (n=416)

Variable	Frequency	Percent
Age		
18-24	105	25
25-35	249	60
≥36	52	15
Ethnicity		
Wolaita	290	70
Gurage	97	23
Others	29	7
Religion		
Protestant	159	38.2
Orthodox	112	26.9
Muslim	109	26.2
Catholic	36	8.7
Marital status		
Married	295	70.9
Widowed	28	6.7
Living together	31	7.5
Divorced	62	14.9
Educational status		
No formal education	117	28.1
Primary education	112	27
Secondary education	122	29.3
Territory education	65	15.6
Partners education status		
No formal education	123	29.6
Primary education	118	28.4
Secondary education	91	22
Territory education	84	20
Occupation		
Government worker	86	20.7
Private worker	146	35.1
Farmer	98	23.6
Housewife	86	20.7
Estimated monthly income		
<600ETB	24	6
601-1550 ETB	258	62
1551-3200ETB	90	22
>3201ETB	44	10

Table2. Maternal and reproductive health characteristics of postpartum women in public health institution of Sodo town, Southern Ethiopia 2019 (n=416)

Variables	Frequency (n=416)	Percent
Number of alive children		
One	101	24.3
Two and above	315	75.7
Age of interval between children		
1 year	131	31.5
2 year	135	32.5
3 year	99	23.8
≥4 year	51	12.3
Attending antenatal care		
Yes	261	62.7
No	155	37.3
Receiving family planning counseling from a health provider		
Yes	346	83.2%
No	70	16.8
Post natal care		
Yes	326	78.4
No	90	21.6
Discussion with a partner on PFP		
Yes	316	76
No	100	24
Husband approval of the contraceptive		
Yes	348	83.7
No	68	16.3
Previous contraceptive use		
Yes	334	80.3
No	82	19.7
Resumption of menses after birth		
Yes	316	76
No	100	24
Resumption of sexual activity		
Yes	333	80
No	83	20
Who decides to use family planning		
Wife	141	33.9
Husband	196	47.1
Jointly	79	19

Table3. Multivariate analysis of factors associated with intention to use modern contraceptives in the future among postpartum women in public health institutions of Sodo town, Southern Ethiopia 2019(n=416)

variables	Intention to use contraceptives		COR (95%)	AOR (95%)
	Yes (%)	No (%)		
Educational status				
No formal education	93(32)	24(19.2)	1	1
Primary education	37(29.6)	75(25.8)	1.912(1.052-3.473)*	1.645(0.844-3.206)
Secondary education	46(36.8)	76(26.1)	2.345(1.314-4.185)*	2.052(1.064-3.958)**
Tertiary education	18(14.4)	47(16.2)	1.484(0.734-3.002)*	1.471(0.657-3.292)
Number of alive children				
Only	62(21.3)	39(31.2)	1	1
Two and above	229(78.7)	86(68.8)	1.675(1.046-2.683)*	1.409(0.619-3.205)
Attending antenatal care follow up				
Yes	200(68.7)	61(48.8)	2.306(1.501-3.543)*	1.736(1.021-2.951)**
No	91(31.3)	64(51.2)	1	1
Attending postnatal care follow up				
Yes	249(85.6)	77(61.6)	3.696(2.272-6.012)*	1.698(0.694-4.156)
No	42(14.4)	48(38.4)	1	1
Receiving counseling during antenatal care				
Yes	259(89)	77(61.6)	3.535(2.082-6.002)*	1.098(0.481-2.506)
No	32(11)	38(30.4)	1	1
Discussion on PFP with partner				
Yes	230(79)	86(68.8)	1.710(1.066-2.741)*	0.698(0.309-1.579)
No	61(21)	39(31.2)	1	1
Menses status				
Resumed	243(83.5)	73(58.4)	3,606(2.250-5.779)*	2.047(1.141-3.675)**
Not resumed	48(16.5)	52(41.6)	1	1
Resumes sexual activity				
Yes	242(83.2)	91(72.8)	1.845(1.120-3.041)*	0.772(0.391-1.526)
No	49(16.8)	34(27.2)	1	1
Previously used contraceptive				
Yes	255(87.6)	79(63.2)	4.124(2.492-6.827)*	1.619(0.707-3.708)
No	36(12.4)	46(36.8)	1	1
Husband approval of contraceptives				

Yes	262(90) 86(68.8)	4.097(2.390-7.022)*	2.395(1.501-5.458)**	
No	29(10) 39(31.2)	1	1	
Knowledge on contraceptive				
Good knowledge	144(49.5) 38(30.4)	2.243(1.437-3.500)*	2.535(1.499-4.282)**	
Poor knowledge	147(50.5) 87(69.6)	1	1	

***=p-value<0.2**

****=p-value<0.05**

1=reference