Volume 19 Issue 2
Originally issued as K1

Global Journal of Medical Research: K
Interdisciplinary
Volume 19 Issue 1 Version 1.0 Year 2019
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

Magnitude of Late ANC Booking and its Determinant Factors among Pregnant Women Attended Public Health Centers and Private Clinic in Artumafursi District, Amhara Regional State, Special Zone of Oromia, Ethiopia 2017

By Ayana Chimdessa, Nathan Estifanos & Jote Markos
Wollega University

Abstract- *Background:* Pregnancy period is the most crucial time to determine the healthy life of a woman and whole families. It is a vital period to promote healthy behaviors and parenting skills.

In Ethiopia only 34 % of women received antenatal care service at least once for their last birth. Only 11% of women had taken their first antenatal care (ANC) visit before the second trimester.

Methods: Institutional based cross sectional survey was conducted from May 1-30, 2017. All pregnant women who had attended to two public health centers and one private clinic for ANC follow up were recruited by simple random sampling method. Particularly, lottery method was used to recruit participants in to the study. Data were collected using pre-tested interviewer administered questionnaire. Logistic regression was used to analyze the data by using IBM SPSS statics version 20.0.

Keywords: *magnitude, antenatal care, determinant factors, pregnant women, ethiopia.*

GJMR-K Classification: *NLMC Code: WA 108*



Strictly as per the compliance and regulations of:

© 2019. Ayana Chimdessa, Nathan Estifanos & Jote Markos. This is a research/review paper, distributed under the terms of the Creative Commons Attribution-Noncommercial 3.0 Unported License http://creativecommons.org/licenses/by-nc/3.0/), permitting all non commercial use, distribution, and reproduction inany medium, provided the original work is properly cited.

Magnitude of Late ANC Booking and its Determinant Factors among Pregnant Women Attended Public Health Centers and Private Clinic in Artumafursi District, Amhara Regional State, Special Zone of Oromia, Ethiopia 2017

Ayana Chimdessa [α], Nathan Estifanos [σ] & Jote Markos [ρ]

Abstract- Background: Pregnancy period is the most crucial time to determine the healthy life of a woman and whole families. It is a vital period to promote healthy behaviors and parenting skills.

In Ethiopia only 34 % of women received antenatal care service at least once for their last birth. Only 11% of women had taken their first antenatal care (ANC) visit before the second trimester.

Methods: Institutional based cross sectional survey was conducted from May 1-30, 2017. All pregnant women who had attended to two public health centers and one private clinic for ANC follow up were recruited by simple random sampling method. Particularly, lottery method was used to recruit participants in to the study. Data were collected using pre-tested interviewer administered questionnaire. Logistic regression was used to analyze the data by using IBM SPSS statics version 20.0.

Results: The study has explored the magnitude and determinant factors of late ANC booking of participants in the district. Magnitude of late ANC booking among the study participants' was massive. The overall prevalence of late ANC booking time was 252 (60.9%). Having diploma and above educational status (AOR 1.50, (95 % CI, 2.10, 1.51)), being employed (AOR 2.20, (95% CI, 2.73-1.01)) previous history of abortion (AOR 1.56 (95% CI, 2.09-1.73) and urban resident (AOR 2.10 (95% CI, 3.25-1.87)) were identified as major contributing factors for early initiation of ANC booking. Whereas, unintended pregnancy (AOR 0.45 (95% CI, 0.34, 0.21)) and having poor knowledge of ANC services (AOR 0.51 (95% CI, 0.71-0.21)) were contribute for late ANC booking.

Conclusions: The overall prevalence of late ANC booking time was 252 (60.9%). Higher educational background, being employed, previous history of abortion and urban residents were identified as major contributing factors for seeking behavior of early ANC booking. Unintended pregnancy and having poor knowledge of ANC services negatively affect early ANC booking.

Hence, establishment of pregnant mothers' group discussion forum about ANC, creating and using Health Development Army (HAD) "for the community by the community" must be considered.

Keywords: magnitude, antenatal care, determinant factors, pregnant women, ethiopia.

I. Back Ground

Pregnancy period is the most crucial time to determine the healthy life of a woman and whole families. It is a vital period to promote healthy behaviors and parenting skills [1]. Utilization of health services are complex behavioral phenomenon. Empirical studies of preventive and curative services found that the use of antenatal care (ANC) services are directly related to availability, accessibility, quality, cost of services, social structure, health beliefs and personal characteristics of clients [1,3]. Antenatal care refers to education, counseling, screening and treatment throughout pregnancy period. Promoting the well-being and monitoring the health status of families is another activities need attention during the period of pregnancy [1, 2].

Attaining to world health organization (WHO) recommendations on the new model of ANC goal-oriented implementation in developing countries is mandatory. Within this new strategy, WHO recommends four antenatal care visits for low risk pregnancies and prescribes evidence-based practices for every visit and classify them in to basic components and special care of ANC depending on their previous obstetric history. World health organization recommends that all pregnant women should receive prenatal care at early stage of their pregnancy to prevent any pregnancy related complications [1,3]. In addition to this, pregnant women should be screened for HIV and syphilis infections for the sake of reducing mother-to-child transmission [2,3].

Author α: School of Nursing and Midwifery, College of Health Sciences, Wollega University, P.O Box: 395, Nekemte, Ethiopia.
e-mail: ayanayoom@gmail.com
Author σ: College of Medicine and Health Science, Wollo University, Desse, Ethiopia. e-mail: estifanos9090@gmail.com
Author ρ: College of Health Science, Wollega University, Nekemt, Ethiopia. e-mail: amsalec2002@yahoo.com

© 2019 Global Journals

Different studies pointed that a timely initiation of ANC has Varity of benefits creating strong relationship among families, provision of individualized health promotion information, early problem identification, examination and management of maternal conditions that may later become life-threatening conditions. This time is also ideal to prepare mothers to plan for birth and care of a newborn. Those women who failed to initiate ANC at early stage may encounter negative impact of pregnancy related health conditions and may face long life health problems [1, 2, 4] .

Even though pregnancy related mortality is almost always preventable, yet worldwide, more than half a million women die annually. Studies shows that about 1,600 women die every day due to pregnancy related complications. Out of these about 90-95% is accounted by sub-Saharan countries [5].

Maternal mortality is one of the major challenges that developing countries are facing today. Even though indisputable actions have been taken to reduce maternal mortality, it is still significantly high in developing world. Recent studies showed that in average 1:16 life risk mothers die of pregnancy and childbirth related problems in developing countries compared with that of developed countries which is 1:2800. Out of 520,000 estimated deaths each year, about 99% of these occur in developing world. About 300 million women in developing countries suffer from long term complications related to pregnancy and childbirth [1,5]

Despite of charge free ANC services in public health institutions of Ethiopia, there is a very low magnitude of on time ANC visit and service provision as well. The 2014 Ethiopian demographic health survey (EDHS) report indicated that about four out of every ten Ethiopian women (43%) had not received any antenatal care service for their last birth within the last five years prior to the survey [4]. In Ethiopia the prevalence of maternal and infant mortality and morbidity are amongst the highest in the world. Thus, there are 676 maternal deaths for every 100,000 live births and infant mortality rate is 59 per 1,000 live births [4]. Different studies reported that women who had never received ANC service may face lifelong health problems and even death. Despite the progress in antenatal care coverage, many countries of sub-Saharan Africa and South/ Southeast Asia have unsatisfactory results of registries for WHO recommended Focused Ante-Natal Care (FANC) visits. Additionally, in sub-Saharan Africa women tends to start their first antenatal care visit either in the second or third trimester [1, 3].

According to EDHS 2014, only 34% of women received antenatal care service at least once for their last birth. Only 11% of women had taken their first ANC visit before the second trimester of their last pregnancy [4]. Therefore, it was the purpose of this study to investigate the magnitude of ANC service coverage and factors associated with late attendance to ANC services in ArtumaFursi district, Ethiopia. The results of this study provide direction for designing targeted ANC service intervention and timely initiation of reproductive age women for ANC follow up.

II. Methods and Materials

Institutional based cross sectional survey was conducted from May 1-30, 2017. All pregnant women who had attended to two public health centers and one private clinic for ANC follow up were recruited by simple random sampling method. Particularly, lottery method was used to recruit participants in to the study. All Pregnant women who had attended ANC service were included. Pregnant women who were critical ill during data collection period were excluded from the study. Sample size was calculated by using p=50% to obtain maximum sample size, CI 95%, margin of error d=0.05 and summation of 10% considerable non-response rate. Totally, 424 participants had taken part in the study. Late booked mothers for ANC services were considered as an outcome variable for this study. Initial time of visit for ANC service was tested with independent variables. Late ANC booked mothers referred to those who had booked for the service after 12 weeks of their gestational age.

Partially adopted structured interview-based questionnaire was used for data collection. The questionnaire was prepared in English and then translated to local language (Afan Oromo) by formal translator and re-translated to English in order to check for its consistency. Finally, the local language version was used for data collection. Before actual data collection, the questionnaire was pre-tested on 5% of the sample size at Kombolcha health center. Based on the pre-test results, some amendments were done. Data was collected by 6 B.Sc. Nurses, Midwifes and two trained supervisors. All data collectors and supervisors had given two days of intensive training on the objectives, procedures and content of the study.

The collected data was entered in to Epi Info 7 and exported to IBM SPSS statics version 20.0 to clean and analyze data. Frequencies, proportions, mean and summary statics were used to describe parameters under investigations. Association between outcome variable and independent variables were assessed and presented using odd ratio and confidence intervals. Multivariate logistic regression is done to control for possible confounders.

Ethical clearance was obtained from Wollo University Institutional Review Board (IRB) and given to all responsible bodies abiding with a formal letter. Written informed consent was obtained from each study participants. Participation in the study was voluntary and collected information has been kept confidential.

© 2019 Global Journals

III. Results

A total of 424 participants were involved in the study. Data from414 (97.7%) were included in the analysis. Information from ten respondents was excluded from analysis for their incompleteness.

a) Socio-demographic characteristics

As indicated in Table 1, the mean age of respondents was 23.43 ranging from 18 49 years old. Of the total, 403 (97.3%) of participants were from Oromo ethnic group. Majority 248 (59.9%) and 160 (38.6%) of respondents were Muslim and Christian followers respectively. About 264 (63.8%) of respondents were married. More than half 254 (61.4%) of participants were housewives. About 149 (36%) had never been to school and 265 (64 %) of participants were living in the rural parts of the district.

Table 1: Socio-demographic characteristics of study participants in ArtumaFursi district, Ethiopia, 2017 (n=414)

Variable	N (%)
Age (mean = 23.43)	
18-30	262 (63.5)
31-40	87 (21.0)
41-49	65 (15.5)
Ethnicity	
Oromo	403 (97.3)
Amhara	8 (1.9)
Afar	3 (0.7)
Religion	
Muslim	248 (59.9)
Orthodox	160 (38.6)
Protestant	6 (1.4)
Occupation	
House wife	254 (61.4)
Employed	160 (38.6)
Educational status	
Never been to school	149 (36.0)
Primary	87 (12.8)
Secondary	80 (19.3)
Diploma and above	98 (11.4)
Marital status	
Married	264 (63.8)
Single	124 (30.0)
Divorced	26 (6.3)
Monthly house hold income	
<400 ETB	167 (40.3)
400 – 1,000 ETB	111 (26.8)
>1,000 ETB	136 (32.9)

b) Determinant factors for late ANC booking of pregnant mothers

Late ANC booking among the study participants was massive. The overall prevalence of late ANC booking was 252 (60.9%). Of the total, 182 (69.5%) and 31 (47.7 %) had booked late for ANC services with respective age rages between 18-30 and 41-49 years. Majority 198 (74.7%) of rural residents had booked late for ANC services. The average house hold income and employment status of study participants were major factors influencing ANC booking time. About142 (85%) of participants who were earning less than 400 Ethiopian birr per month and housewives 241 (94.9%) had booked late for ANC follow up.

© 2019 Global Journals

c) *Obstetric history of study participants*

Obstetric history of pregnant mothers was another factor affecting ANC booking time either positively or negatively. Out of 143 (34.5 %) uniparous, about 84 (71.8%) of them had booked late for the services.

About 161(38.9%) participants had previous history of abortion. Of these, 119 (73.9%) booked early for ANC services. About 97 (24.4%) participants had unintended pregnancy; of which86 (88.7%) were lately booked for antenatal care.

Table 2: Determinant factors for late ANC booking of pregnant mothers in ArtumaFursi district, Ethiopia, 2017 (n = 414)

Variable	Late booking for ANC follow up		
	Yes: n (%)	No: n (%)	Total: n (%)
Age (mean = 23.43)			
18-30	182 (69.5%)	80 (30.5%)	262 (63.3)
31-40	39 (44.8 %)	48 (55.2 %)	87 (21.0)
Greater than 41	31 (47.7 %)	34 (52.3 %)	65 (15.7)
Residence			
Rural	198 (74.7 %)	67 (25.3 %)	265 (64.0)
Urban	54 (36.2 %)	95 (63.8 %)	149 (36.0)
Marital status			
Married	130 (49.2 %)	134 (50.8 %)	264 (63.8)
Unmarried (get pregnancy informally)	103 (83.1 %)	21 (16.9 %)	124 (30.0)
Divorced, separate or widowed	19 (73.1 %)	7 (26.9 %)	26 (6.3)
Monthly income			
<400 ETB	142 (85 %)	25 (15 %)	167 (40.3)
400 – 1,000 ETB	90 (81.1 %)	21 (18.9 %)	111(26.8)
>1,000 ETB	20 (14.7%)	116 (85.3 %)	136 (32.9)
Occupation			
Employed	11(6.9 %)	149 (93.1 %)	160 (36.6)
House wife	241 (94.9 %)	13 (5.1%)	254 (61.4)
Educational status			
Never been to school	137(92%)	12(8%)	149 (36.0)
Complete primary	66(75.9%)	21(24.1%)	87 (21.0)
Secondary complete	59 (73.8%)	21 (26.2%)	80 (19.3)
Diploma and above	32(32.7%)	66(67.3%)	98 (23.7)
Parity			
Uniparous	84 (71.8%)	59 (28.2%)	143 (34.5)
Multiparous	129 (43.4%)	168 (56.6%)	297 (71.7)
Unintended pregnancy			
Yes	86 (88.7%)	11 (11.3%)	97 (23.4)
No	151(47.6%)	166 (52.4%)	317 (76.6)
History of previous abortion			
Yes	42 (26.1%)	119 (73.9%)	161 (38.9)
No	210 (83 %)	43 (17%)	253 (61.1)
Over all total time of booking for ANC	252 (60.9%)	162 (39.1%)	414 (100%)

d) *Predictors of late ANC booking of pregnant mothers*

After adjusting for socio-demographic and contextual factors; participants having diploma and above educational background (AOR 1.50, (95% CI, 2.10, 1.51)), being employed (AOR 2.20, (95% CI, 2.73-1.01)), previous history of abortion (AOR 1.56 (95% CI, 2.09-1.73) and urban residency (AOR 2.10 (95% CI, 3.25-1.87)) were identified as major contributing factors for the likely seeking behavior of early ANC services compared to their counter parts. The finding shows that participants with unintended pregnancy (AOR 0.45 (95% CI, 0.34, 0.21)) and having poor knowledge of ANC services (AOR 0.51 (95% CI, 0.71-0.21)) were contributing factors for less likely booking earlier for ANC follow up compared to their comparable group.

© 2019 Global Journals

Table 2: Predictors of late ANC booking of pregnant mothers in ArtumaFursi district, Ethiopia, 2017(n=414)

Variables		Late book for ANC services		COR (95.5% CI)	P-value	AOR (95% CI)	P-value
		Yes: n (%)	No: n (%)				
Marital status							
	Divorced/window/separated	19 (73.1%)	7 (26.9%)	4.67 (1.96-11.52)	0.001		
	Unmarried	103 (83.1%)	21 (16.9%)	1.02 (.65-1.58)			
	Married	130 (49.2%)	134 (50.8%)	1			
Educational status							
	Diploma and above	32 (32.7%)	66 (67.3%)	2.64 (3.33-2.22)	0.002	1.50 (2.10-1.51)	0.001
	Secondary	59 (73.8%)	21 (26.2%)	.33 (.18-.611)			
	Primary	66 (75.9%)	21 (24.1%)	1.11 (.59-2.08)			
	Never been to school	137 (92%)	12 (8%)	2.41 (.20-.84)			
Occupation							
	House wife	241 (94.9 %)	13 (5.1%)	1			
	Employed	11 (6.9 %)	149 (93.1%)	3.04 (4.58-2.02)	0.0001	2.20 (2.73-1.01)	0.02
Residency							
	Rural	198	67				
	Urban	54	95	6,51 (8.12-4.34)	0.003	4.53 (7.31-2.57)	0.001
Unintended pregnancy							
	Yes	86 (88.7%)	11 (11.3%)	0.61 (5.10-2.95)	0.002	0.45 (0.34-0.21)	0.001
	No	151 (47.6%)	166 (52.4%)	1			
Previous history of Abortion							
	Yes	42 (26.1%)	119 (73.9%)	3.12 (4.71-3.01)	0.002	1.56 (2.09-1.73)	0.013
	No	210 (83 %)	43 (17%)	1			
Number of ANC follow up							
	One	101 (55.2%)	82 (44.8%)	4.17 (5.12-2.05)	0.04		
	Two	83 (64.8%)	45 (35.2%)	2.89 (8.03-4.09)			
	Three	49 (62%)	30 (38%)	5.43 (4.74-1.23)			
	More than three	19 (79.2%)	5 (20.8%)	1			
Knowledge of ANC							
	Good	18 (14.6%)	105 (85.4%)	1			
	Poor	234 (80.4%)	57 (19.6%)	0.75 (0.91-0.23)	0.003	0.51 (0.71-0.21)	0.002

IV. Discussion

This study provides prevalence and identify determinant factors for late ANC booking of pregnant mothers in ArtumaFursi district, Ethiopia.

The findings revealed that late ANC booking among the study units was massive. Out of the total, majority 252 (60.9%) booked late for antenatal care. However, previous studies conducted in Addis Ababa and Zambia showed that about 59.8% and 72% mothers booked early for ANC services respectively [6, 7]. This variation might be due to the residence of study participants since; most of the mothers in this study were rural residents. The other possible explanation for this huge difference might be the deployment of health care professionals because; most of health cadres prefer to work in urban areas.

In this study, educational and occupational status of the participants was the most determinant factors influencing ANC booking time. Both employed and highly educated women had booked earlier than their counter parts. Whereas, those who had never been to school and housewives had booked late for ANC accounting 92% and 94.9% respectively. This finding is similar with studies conducted in East Wollega, Bangladesh Nigeria and Tanzania [5, 8,9, 10, 11].

About 73.9% of uniparous mothers booked lately for antennal care compared to multiparous ones. This finding is similar with studies conducted in other parts of Ethiopia, Tanzania and India [7, 9, 12, 13, 14].

Previous obstetrichi story of mothers also determine the time of ANC service seeking. Among women who had history of abortion, majority 73.9% of them visited health institutions for ANC service earlier compared to their counter parts. The finding is concurrent with studies conducted in Ethiopia and Zimbabwe [12, 15, 16].

Unintended pregnancy and lack of good knowledge about antenatal care were other factors to determine the time of ANC service seeking behavior. Those mothers who had had unintended pregnancy (88.7%) and had poor knowledge (80.4%) were too late for initiation of ANC service booking. These findings are parallel with similar studies conducted in Uganda, Malawi Zambia and other parts of Ethiopia [6, 9, 17, 18].

© 2019 Global Journals

V. Conclusion

The magnitude of late booking for ANC service was huge among study participants. Of the total, majority 252 (60.9%) of women were lately booked for ANC services. Additionally, low educational status, being a house wife, rural residency, having poor knowledge of ANC services and unintended pregnancy were pertinent factors for late antenatal care booking. Generally, early ANC service seeking behavior of study participants is very low hence, it needs attention.

VI. Recommendations

Information education and communication (IEC) about on time booking for ANC services targeting women and their partners in the district should be under taken through multi-cultural, religious leadersand community involvement perspectives. It's better to consider integrating health education of ANC with other health care services holistically. Integrating health education with other services, information dissemination about advantage of early ANC visit should be implemented. Simultaneously, establishing pregnant mothers' group discussion forum about ANC, creating and using Health Development Army (HAD) with high participation of reproductive age women "for the community by the community" must be considered by both governmental and non-governmental organizations co-operatively.

Limitation of the study: This study used only institutional based cross sectional study design in three health institutions i.e. two health centers and one private clinic in a single district.

Abbreviations

ANC -Antenatal Care, EDHS-Ethiopia Demographic Health Survey, FANC-Focused Ante-Natal Care, HAD-Health Development Army, HIV-Human Immune Virus, IEC-Information education and communication, NGO-Nongovernmental Organization, MH_4SRH Mobile Health for Sexual and Reproductive Health, WHO-World Health Organization.

Declarations

Ethics and consent to participate

Ethical clearance and permission was obtained from Wollo University Institutional Research Review Board. Written consent was taken to participate in this research.

Consent to publish

Not applicable.

Availability of data and materials

The materials and data shall be obtained upon request of corresponding author.

Competing interest

The authors declared that there is no any competing interest.

Funding

This research article has not been funded from any source of organization.

Authors' contribution

All authors, Ayana Chimdessa, Nathan Estifanosand Jote Markos involved from the inception of idea to the design, analysis and preparation of manuscript.

Acknowledgements

The authors would like to heart fully thank the study participants who dedicated to participate in the study and contribute their valuable responses for this study.

References Références Referencias

1. UNICEF. Maternal and Newborn Health. 2010.
2. Ornella Lincetto, Seipati Mothebesoane-Anoh, Patricia Gomez, Munjanja S. Antenatal Care. 2013.
3. Health OMo. Ontario's Maternal, Newborn and Early Child Development Resource Centre. 2010.
4. Agency C S. Ethiopia Mini Demographic and Health Survey. Addis Ababa, Ethiopia. 2014.
5. Tekelab T, Berhanu B. Factors Associated with Late Initiation of Antenatal Care among Pregnant Women Attending Antenatal Clinic at Public Health Centers in Kembata Tembaro Zone, Southern Ethiopia. Science, Technology and Arts Research Journal. 2014;3(1):108-15.
6. Banda I, Michelo C, Hazemba A. Factors associated with late antenatal care attendance in selected rural and urban communities of the copperbelt province of Zambia. Medical Journal of Zambia. 2012; 39(3): 29-36.
7. Berhe K K, Welearegay H G, Abera G B, Kahsay H B, Kahsay A B. Assessment of antenatal care utilization and its associated factors among 15 to 49 years of age women in Ayder Kebelle, Mekelle City 2012/2013; a cross sectional study. Am J Adv Drug Deliv. 2014; 2: 62-75.
8. Eyasu Ejeta, Regea Dabsu, et al. (2017), Factors determining late antenatal care booking and the content of care among pregnant mother attending antenatal care services in East Wollega administrative zone, West Ethiopia. Pan African Medical Journal.
9. Fantanesh D. (2015) Assessments of knowledge and attitudes of pregnant women on the benefits of antenatal care utilization, in Addis Ababa, Ethiopia: AAU; 2015.
10. Ndidi E, Oseremen I. (2010), Reasons given by pregnant women for late initiation of antenatal care in the niger delta, Nigeria. Ghana medical journal. 2010; 44(2).

© 2019 Global Journals

11. Hossain M K, Islam M R, Khan M N, Ali M R. (2015), Contribution of socio-demographic factors on antenatal care in Bangladesh: Modeling approach. Public Health Research. 2015; 5(4): 95-102.
12. Gebremeskel F, Dibaba Y, Admassu B. (2015), Timing of first antenatal care attendance and associated factors among pregnant women in Arba Minch Town and Arba Minch District, Gamo Gofa Zone, south Ethiopia. Journal of environmental and public health. 2015; 2015.
13. Gross K, Alba S, Glass T R, Schellenberg J A, Obrist B. (2012), Timing of antenatal care for adolescent and adult pregnant women in south-eastern Tanzania. BMC pregnancy and childbirth. 2012; 12(1): 16.
14. Singh R, Chauhan R, Singh H, Bhatnager M, Idnani R, Singh G. A (2013), Situational analysis of antenatal services and delivery practices among pregnant women: A retrospective study in NCR, Ghaziabad, India. Indian J Prev Soc Med. 2013; 44(1-2): 109.
15. Gudayu T W. (2015), Proportion and factors associated with late antenatal care booking among pregnant mothers in Gondar town, North West Ethiopia. African journal of reproductive health. 2015; 19(2): 93-9.
16. AMNA A. (2015), Late Antenatal Booking, Its Barrier and Maternal Complications. Age (years). 2015; 25: 35.
17. Adewunmi A, Rabiu K, Tayo A. (2009), Gestational age at antenatal booking in Lagos, South-West Nigeria. Internet J Gynecology and Obstetrics. 2009; 12: 1.
18. Ounsa M, Mohamed E. (2011), Quality of antenatal care provided for pregnant women in Ribat University Hospital Khartoum. Sudanese Journal of Public Health. 2011; 6(2): 51-5.

© 2019 Global Journals