Peertechz

Life Sciences Group

International Journal of Sexual and Reproductive Health Care

DOI:http://dx.doi.org/10.17352/ijsrhc

Samuel Dessu[1]*, Zinabu Dawit[2] and Fikre Bojola[2]

[1]Department of Public Health, College of Medicine & Health sciences, Dire Dawa University, Eastern Ethiopia
[2]Arba Minch health science college, Arba Minch, Southern Ethiopia

Received: 27 December, 2018
Accepted: 14 February, 2019
Published: 15 February, 2019

***Corresponding author:** Samuel Dessu, Department of Public Health, College of Medicine & Health sciences, Dire Dawa University, Eastern Ethiopia, E-mail: dessusamuel@yahoo.com

Keywords: Danger signs; Birth preparedness and Complication readiness; Arba Minch town governmental institutions

https://www.peertechz.com

Research Article

Assessment of birth preparedness & complication readiness and associated factors among ANC attendant pregnant mothers in Arba Minch Town Governmental Institutions, Arba Minch, Southern Ethiopia

Abstract

Introduction: Birth preparedness and complication readiness is the big pillar in the process of planning for normal delivery and seeking interventions if there is an obstetric emergency. Since Maternal mortality is a public health challenge Globally, different effort were applied from government as well as nongovernmental organization.

Methods: Institution based cross-sectional study design was conducted from September 15,2017 to October 15,2017 in Arba Minch town governmental Institutions. A total of 421 pregnant mothers were involved and study subjects were selected by systematic sampling technique. Data were collected using structured interviewer administered questionnaire. Data were entered into Epi info version 7 and exported to SPSS version 23 statistical soft ware package for cleaning, coding and analysis. Descriptive statistics was done to assess basic client characteristics. Factors that show association in Bivariable analysis was entered in to Multivariable logistic regression models. The strength of statistical association was measured by adjusted odds ratios, 95% confidence intervals, and P-value <0.05 was considered as significant.

Result and Discussion: A total of 421 pregnant women were included in the study with a response rate of 100%. The study indicate that 53.4% of the respondents were knowledgeable on danger signs of pregnancy and 57.7% practice birth preparedness and complication readiness. Educational status of the mother(AOR:1.9; 95% CI: 3.14-13.76), Husbands educational status(AOR:1.1;95% CI: 1.4-5.4), Gravidity(AOR:2.9; 95% CI:0.025-0.121) and Knowledge on danger signs of pregnancy(AOR:2.9; 95% CI: 0.04-0.81) were the independent factors which affect the birth preparedness and complication readiness of pregnant mothers.

Conclusion: Educational status of the respondent, Husbands educational status, gravidity and pregnant mother's knowledge on danger signs of pregnancy are significant factors which affect birth preparedness and complication readiness of pregnant mothers.

Background

Birth preparedness is the big pillar in the process of planning for normal delivery and seeking interventions in case of an emergency. It enhances readiness and decision making for birth by pregnant women and relatives. This considers the fact that every pregnancy is a risk and leads to the maternal and fetal complications [1]. Worldwide, one of the main challenge is maternal mortality [2]. According to United Nation inter-agency Estimates, MMR was reduced by 44% from the year 1990 to 2015 [3]. Due to this, around 287,000 mothers die because of obstetric complications and child birth each year. In Developing countries around 99% of maternal mortality occurs and 85% occurs in Sub-Saharan Africa and Southern Asia [4]. Generally, among all parts of the world, Subsaharan Africa accounts the lowest annual reduction rate which is 0.1% [5].

Citation: Dessu S, Dawit Z, Bojola F (2019) Assessment of birth preparedness & complication readiness and associated factors among ANC attendant pregnant mothers in Arba Minch Town Governmental Institutions, Arba Minch, Southern Ethiopia. Int J Sex Reprod Health Care 2(1): 001-005.
DOI: http://dx.doi.org/10.17352/ijsrhc.000003

Sub-Saharan Africa maternal death accounts nearly half of the world's maternal mortality [6].

Estimates from Ethiopian Demographic and health survey (EDHS) surveys indicate a substantial decline in the pregnancy-related mortality ratio in Ethiopia since 2000. There was a reduction from 871 to 673 deaths per 100,000 live births with in the 7 years before the 2000 EDHS survey. The decline between 2000 and 2016 and between 2011 and 2016, is significant [7]. Deficiency of knowledge on birth planning and use of a skilled birth attendant for delivery, and inadequate preparation for rapid intervention in obstetric complications, are well documented risk factors leading to delay in taking skilled care [8]. The recent estimates indicates that the proportion of births attended by skilled attendant in most of African countries is remained below 50 % [8,9].

The maternal and neonatal health program believes the common factors can be averted in advance preparation and rapid action [10]. In Sub Saharan Africa, there is a high proportion of maternal death in which this factors contribute for the maternal death [11]. To enhance the impact of knowledge of key danger signs on birth preparedness practices, Universal primary and secondary education programmes need to be promoted [12]. In a skilled care approach, birth preparedness includes identifying a skilled provider and making the necessary plans to receive skilled care for all births [13]. However, birth preparedness and also complication readiness is critical and important for further improvement of maternal health care and new born & child health and reduces the corresponding deaths. In Ethiopia especially the southern region of rural parts, the level of knowledge on birth preparedness and complication readiness is little. The existing evidences predicts that the level of birth preparedness and complication readiness is minimal [14].

Also little is known about birth preparedness in Gamo Gofa Zone and also there was no study conducted in the study area, therefore, this study provides basic data on the issue that may help the health administrative, professionals, researchers and in general policy makers to implement and scale up safe mother hood program in an attempt to reduce the highest maternal mortality rate and neonatal mortality rate of Ethiopia. Therefore, this study aims to assess the level of birth preparedness and also complication readiness among Antenatal Care attending pregnant women in Arba Minch town Public health institutions.

Methods

Study Design, area and period

Facility based cross-sectional study was conducted in selected health centers to assess birth preparedness among antenatal care attending mothers in Arba Minch General Hospital, Arba Minch health center and Shecha health center from September 15, 2017 to October 15, 2017G.C. Arba Minch town is the administrative sit of Gamo Gofa Zone, located at 505Km in south of Addis Ababa, the capital city of Ethiopia and 275km south west of Hawassa, the capital city of Southern Nations Nationalities and Peoples of regional government. It has two subdivisions; Secha and Sikela, each 5kms apart and it has a total population of 125,411, of which reproductive age women accounted 29,220. The town has one General hospital & 2 governmental health centers.

Population

Source population and study populations: All pregnant mothers who are attending antenatal care in Arba Minch town governmental Institution were source population and All selected pregnant mothers who are attending antenatal care in Arba Minch general Hospital, Arba Minch health center and Secha health center from Sep, 15/2017 to Oct, 15/2017 G.C were study population.

Inclusion and Exclusion criteria: All Pregnant mothers who are attending ANC in Arba Minch town governmental institutions were included and pregnant mothers who are seriously ill to be interviewed and those mothers who were mentally ill were excluded from the study.

Sample size, Technique and Sampling procedures: A systematic sampling technique was used for the sample size was calculated using single proportion formula taking the following assumption p (47.8%) (12), 95% confidence level, margin of error (0.05), $Z\pm\alpha/2$ (1.96) and 10% for non-response rate. Fitting in to the formula the final sample size was 421. Population proportion to sample was employed for the three institutions.

Variables of the study: The dependent variable was Birth preparedness and the independent variables were classified into two categories. These are Socio economic and demographic factors (Age, Marital status, Religion, Ethnicity, Education, Income, Family size, Husband Occupational status & Husband Educational status) and Obstetric factors (Gravidity, Parity & knowledge on danger signs during pregnancy)

Data collection tools, procedure and Quality management: Data were collected using a structured questionnaire format developed for selected variables by the investigator. The English version developed questionnaire was translated to local language and back translated to English to ensure its consistency. The questionnaire was pre-tested in randomly selected 5% populations. Data collection was carried out by trained nurses who are not working in the study area.

Data processing and analysis: Data were entered in to Epi info version 7 and cleaned, coded and entered in to SPSS version 23 statistical Software package for analysis. Descriptive statistics was done to assess basic client characteristics. Bivariable analysis using logistic regression technique was done to see the crude association between the dependent variable and the independent variables. Variables that have P-value less than 0.25 in Bivariable analysis were entered in to multivariable logistic regression models for controlling confounding factors and to identify significant factors. The strength of statistical association was measured by adjusted odds ratios, 95% confidence intervals, and P-value <0.05 was considered as significant.

Citation: Dessu S, Dawit Z, Bojola F (2019) Assessment of birth preparedness & complication readiness and associated factors among ANC attendant pregnant mothers in Arba Minch Town Governmental Institutions, Arba Minch, Southern Ethiopia. Int J Sex Reprod Health Care 2(1): 001-005.
DOI: http://dx.doi.org/10.17352/ijsrhc.000003

Result

Socio- demographic characteristics of the study

A total of 421 pregnant women were included in the study with a response rate of 100%. The respondents age was ranged from 18 to 40 years with a mean age of 28.2 (+ 5.4) and Majority of them 316 (75.1%) has been lied in the age of 21-43 years. One hundred thirteen Eight (32.8%) of the respondents were attended Diploma and above studies and 82 (19.5%) were not read and write. From the total respondents, 212 (50.4%) were Orthodox, 45(10.7%) Muslim and 164 ((39%) were protestant religion followers (Table 1, Figure 1).

Assessment of Birth preparedness and complication readiness

Generally 243(57.7%) of the respondents were prepared for Birth and ready for complication. Among the total respondents 365(86.7%) were identified place of delivery, 313(74.3%) save money, 272(64.6%) prepared essential items for clean delivery and post-partum, 206(48.9%) identified skilled provider, 263(62.5%) detect early signs of emergency, 189(44.9%) designate a decision maker, 313(74.3%) arranged an emergency fund, 298(70.8%) identified mode of transportation, 120(28.5%) have arranged blood donors and 272(64.6%) identify institution within 24 hours of EMOC services.

Assessment of knowledge on danger signs of pregnancy

Generally 225(53.4%) of the respondents were knowledgeable on danger signs of pregnancy. from the total respondents majority of the respondents 226(53.7%) were know vaginal bleeding as danger signs of pregnancy and 20(4.8%) of the respondents sever difficulty of breathing as danger signs of pregnancy (Figure 2).

Discussion

This study was conducted to assess the level of birth preparedness and also complication readiness and the associated factors among pregnant mothers who attend Antenatal care in Arab Minch town public health institutions.

The level of knowledge on danger signs of pregnancy among the respondents was 54.1% which is greater than the study conducted in Adigrat town (30.9%). This might be due to the variations on socio demographic characteristics, different health service access, variation to the source of information and different health care delivery systems.

The finding of this study revealed the prevalence of birth preparedness and complication readiness was 56.1%. This finding is higher than the study conducted in India, Uganda and Northern Nigeria [12,13,15]. This may be due to the increased access to the source of information, socio-economic characteristics variation and also different access to the health service utilization.

Similarly this finding was higher than the study studied in Robe Woreda of Oromia region, Goba woreda of Oromia region, and Aleta wondo of southern Region which was 29.9%, 16.5% and 22% respectively [16-18]. This difference may be due to the ongoing implementation of the sustainable development goals and difference in study setting and study periods, variation in a study periods, socio-cultural characteristics of the populations and variation in information access to the populations.

Among the components of birth preparedness 73.5% of the respondents were save money which was less than the study conducted in Rural Uganda (91%) and Robe woreda in Ethiopia (76.3%) and also it is greater than Adigrat town (68.9%). This variation might be due to the variations in delivery charge

Table 1: Socio-demographic characteristics of the respondent in Arba Minch town governmental institutions, Southern Ethiopia in 2018(n=421).

Variables	Category	Frequency(n)	Percent (%)
Educational status of the respondent	Grade 7 and Above	82	19.5
	1-6 grade	90	21.4
	Read and write	111	26.4
	Cannot read and write	138	32.8
Marital status of the respondents	Married	400	95
	Divorced	6	1.4
	Widowed	12	2.9
	Never married	3	0.7
Occupational Status of the respondents	House wife	83	19.7
	Farmer	146	34.7
	Government Employee	44	10.5
	Private Employee	4	1.0
	Merchant	66	15.7
	House maid	52	12.4
	Student	24	5.7
	Others	2	0.5
Educational Status of the husband respondents	Grade 7 and above	47	11.2
	1-6 grade	157	37.3
	Read and write	67	15.9
	Cannot read and write	150	35.6
Occupational Status of the Husband of the respondent	Farmer	34	8.1
	Government Employee	151	35.9
	Private Employee	99	23.5
	Merchant	44	10.5
	Daily Laborer	93	22.1

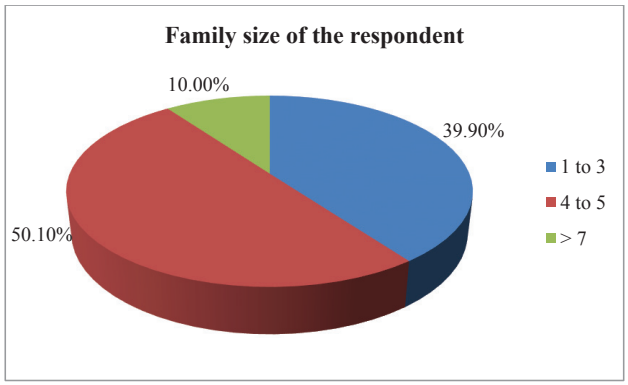

Figure 1: Family size of the respondents in Arba Minch town governmental institutions in 2018 (n=421).

Citation: Dessu S, Dawit Z, Bojola F (2019) Assessment of birth preparedness & complication readiness and associated factors among ANC attendant pregnant mothers in Arba Minch Town Governmental Institutions, Arba Minch, Southern Ethiopia. Int J Sex Reprod Health Care 2(1): 001-005.
DOI: http://dx.doi.org/10.17352/ijsrhc.000003

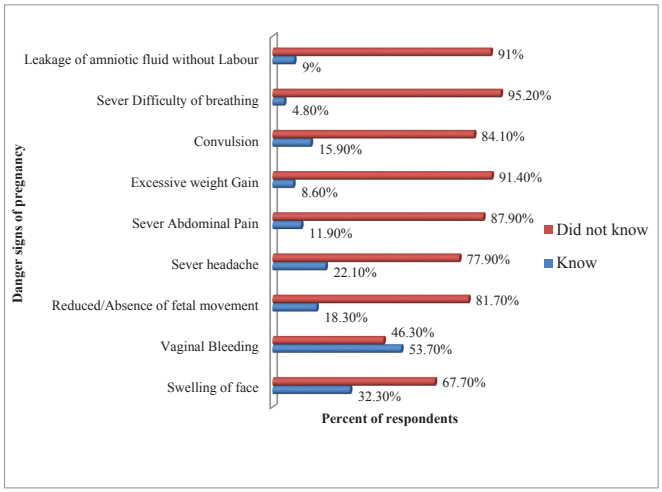

Figure 2: Knowledge status of the respondents on danger signs of pregnancy in Arba Minch town governmental institutions in 2018(n=421).

free service for maternal and child care are being valuable and societies were utilizing well. This study revealed that 85.9% of the respondents identified place of delivery which was greater than the study conducted in Robe woreda and Adigrat town which was 45.6% and 78% respectively [14,18]. This might be due to the time variation, trends of information dissemination on health care seeking practices, recent increased government concern of the nation, variation on demographic, socioeconomic status and quality of services.

Respondents who are Knowledgeable on danger sign of pregnancy are 2.8 times more likely to be prepared for normal birth and complication readiness. This is a similar finding as the study conducted in Robe woreda in Ethiopia which was three times more likely to be ready [19]. This might be due to the adequate provision of knowledge in different opportunities, variation to access to the information sources, variation to the access to the media variation and variation in the health seeking behaviors of mothers. Respondents who know delivery place are 14% and those identified skilled provider are 31% ready for birth preparedness and complication readiness as compared to those who have not known delivery place and not identified skilled provider respectively.

This study revealed that Educational status of the respondent and husband are significant factors. Pregnant mothers who studied grade seven and above are 1.9 times more prepared for birth as compared to those pregnant mothers who did not read and write. This might be due to the increased government expansion of reproductive health study in universities and also at high school and also might be due to their increased health care seeking behavior as their knowledge increases. Pregnant mothers who have grade seven and above studied husband were 14% better prepared for birth and complication readiness this might be due to increased husband awareness towards obstetric complication and also health education access at high schools and universities and also it might be due to increased access to different websites and social Medias (Table 2).

Pregnant mothers who were pregnant more than five times were 2.9 times more likely to be prepared for birth and complication readiness and those pregnant mothers who were 2-4 times pregnant were 1.2 times more prepared as compared to those who become pregnant once. This might be due to the previous experience of health care service utilization, increased awareness about obstetric complication from the previous pregnancy, and also it may be due to the time variation because as the time has been recent there was high government concern to reduce maternal mortality to achieve the ongoing sustainable development goal intervention progress.

Pregnant mothers who were knowledgeable on danger signs of pregnancy were 2.9 times more likely to prepared for birth as compared to those who were not knowledgeable (AOR :2.9; 95%CI: 0.04-0.81). Which is consistent with the study conducted in Goba (AOR:2.09; 95%CI:1.20-3.60) and Debrebirhan (AOR:2.79; 95%CI: 1.16-3.73) [19,20] This might be due to the increment of health care seeking behavior as knowledge on danger signs increases because knowledgeable mothers can early anticipate the obstetric complications and can remember the adverse effects (Table 3).

Conclusion

Generally the knowledge level of the respondents on danger signs of pregnancy was 53.4% and the level of birth preparedness and complication readiness was 57.7%. Educational status of the respondent, Husbands educational status, gravidity and pregnant mothers on danger signs of pregnancy are significant factors which affect birth preparedness and complication readiness of pregnant mothers.

Table 2: Socio-demographic risk factors in Arba Minch town governmental institutions, Southern Ethiopia in 2018(n=421).

Variables	Prepared	Not Yet prepared	COR 95%CI	AOR 95%CI
Age of the respondent				
Less than 20 years	18	26	1	
20-34 years	186	130	0.7(0.25-0.9)*	
More than or equal to 35 years	39	22	0.9(0.2-0.8)*	
Educational status of the respondent				
Cannot read and write	68	14	1	1
Read and write	49	41	1.4(2.0-8.2)*	0.91(1.13-5.44)**
1-6 grade	69	42	1.1(1.5-5.9)*	0.85(1.1-5.0)**
Grade 7 and above	57	81	1.9(3.5-13.5)*	1.9(3.14-13.76)**
Husband Educational status				
Cannot read and write	106	44	1	1
Read and write	27	40	1.2(1.9-6.5)*	1.1(1.4-5.4)**
1-6 grade	87	70	0.7(1.2-3.1)*	0.78(1.3-3.8)**
Grade 7 and above	23	24	0.9(1.3-4.9)*	0.86(1.01-5.34)**
Family Size of the respondent				
1-3	72	96	1	
4-7	134	77	0.8(0.3-0.7)*	
≥7	37	5	2.3(0.4-07)*	

* indicates variables which have p value <0.25, ** indicates variables which have p value ≤0.05

Citation: Dessu S, Dawit Z, Bojola F (2019) Assessment of birth preparedness & complication readiness and associated factors among ANC attendant pregnant mothers in Arba Minch Town Governmental Institutions, Arba Minch, Southern Ethiopia. Int J Sex Reprod Health Care 2(1): 001-005.
DOI: http://dx.doi.org/10.17352/ijsrhc.000003

Table 3: Obstetric risk factors in Arba Minch town governmental institutions, Southern Ethiopia in 2018(n=421).

Variables	Prepared	Not Yet prepared	COR 95%CI	AOR 95%CI
Gravidity				
1	51	94	1	1
2-4	114	73	1.1(0.2-0.5)*	1.2(0.18-0.5)**
≥5	78	11	2.5(0.03-0.15)*	2.9(0.025-0.121)**
Parity				
1	104	126	1	
2-4	80	48	0.7(0.3-0.8)*	
≥5	59	4	2.8(0.02-0.15)*	
Knowledge on danger signs of pregnancy				
Knowledgeable	155	70	2.7(0.24-0.58)*	2.9(0.04-0.81)**
Not yet knowledgeable	88	108	1	1

* indicates variables which have p value <0.25, ** indicates variables which have p value ≤0.05.

Acknowledgement

We would like to express our thanks to Arba Minch General Hospital, Arba Minch health center and Shecha health center administrators and all staff member of Antenatal care for their cooperativeness.

References

1. Hogan M, Foreman K, Ahn S, Naghavi M, Wang M, et al.(2010) Maternal mortality for 181 countries: a systematic analysis of progress towards Millennium Development Goal 5. Lancet. Link: https://tinyurl.com/y6omauzj
2. UNICEF Data (2015) Monitoring the situation of children and women. Link: https://tinyurl.com/y5798h3g
3. Ethiopian Health And Demographic Health Survey. 2016. Link: https://tinyurl.com/y6mmwfo8
4. UNICEF (2008) Progresopara la infancia. Un balance sobre la mortalidad materna. Link: https://tinyurl.com/yyx6ekz6
5. Jose L, Ruth G, Valentín H, Angel G (2009) Factors associated with maternal mortality in Sub-Saharan Africa: an ecological study.BMC Public Health. Link: https://tinyurl.com/y2rqy2x7
6. JHPIEGO (2004) Maternal and neonatal health. Monitoring birth preparedness and complication readiness, tools and indicators for maternal and newborn health. Johns Hopkins, Bloomberg school of Public Health, Center for communication programs:family care International. Link: https://tinyurl.com/y5n54jav
7. World Health Organization (WHO) (2013) World Health Statistics 2013. Geneva, Switzerland: WHO. Link: https://tinyurl.com/y3qanpdt
8. Economic Commission for Africa, African Union, African Development Bank Group, UNDP (2012) Assessing Progress in Africa Toward the Millennium Development Goals: Emerging Perspectives from Africa on the Post-2015 Development Agenda. Addis Ababa, Ethiopia. Link: https://tinyurl.com/yybbnava
9. Ethiopian Demographic and Health Survey (EDHS) (2005) Addis Ababa, Ethiopia: Central Statistic Authority. Link: https://tinyurl.com/yy8mvd4z
10. JHPIEGO (2001) Birth Preparedness and Complication Readiness: A Matrix of Shared Responsibility. Maternal and Neonatal Health (MNH) Program. Link: https://tinyurl.com/y5g9zmde
11. Trends in Maternal Mortality (2012) WHO, UNICEF, UNFPA and the World Bank Estimate, 1990 to 2010. World Health Organization. Link: https://tinyurl.com/y56repso
12. Kyenga J, Ostergren P, E ET, Pettersson K (2011) Knowledge of obstetric danger signs and birth preparedness practices among women in rural Uganda. Reproductive Health J 8: 33 Link: https://tinyurl.com/yycmmv72
13. Hiluf M, Fantahun M (2008) Birth Preparedness and Complication Readiness among women in Adigrat town, north Ethiopia. Ethiop J Health Dev 22: 14-20. Link: https://tinyurl.com/y69btybu
14. Hailu M, Gebremariam A, Alemseged F, Deribe K (2011) Birth Preparedness and Complication Readiness among Pregnant Women in Southern Ethiopia 6: e21432 Link: https://tinyurl.com/yxuskpce
15. Markos D, Bogale D (2014) Birth preparedness and complication readiness among women of child bearing age group in Goba woreda, Oromia region, Ethiopia. BMC Pregnancy and Childbirth 14. 282. Link: https://tinyurl.com/yxq6er7h
16. JHPIEGO (2004) Monitoring Birth Preparedness and Complication Readiness Tools and Indicators for Maternal and Newborn Health. Maryland, USA: Maternal and neonatal health program of JHPIEGO. Link: https://tinyurl.com/y5t8d8r7
17. Mohamed K, Mesfin A (2014) Birth preparedness and complication readiness in Robe Woreda, Arsi Zone, Oromia Region, Central Ethiopia: a cross-sectional study. Reproductive Health 11: 55. Link: https://tinyurl.com/y5m53yn6
18. David PU, Andrea BP, Fatuma M (2012) Birth preparedness and complication readiness among women in Mpwapwa district, Tanzania. Tanzania Journal of Health Research 14. Link: https://tinyurl.com/yxespd6b
19. Markos D, Bogale D (2008) Birth Preparedness and Complication Readiness among women in Goba woreda, Oromia, Ethiopia Ethiop J Health Dev 22: 10-35.
20. Hailemarim.A, Nahusenay.H, G/Hana.E, Abebe.A, Getaneh.B (2016) Assessment of Magnitude and Factors Associated with Birth Preparedness and Complication Readiness among Pregnant Women Attending Antenatal Care Services at Public Health Facilities in Debrebirhan Town. Global Journal of Medical Research 16. Link: https://tinyurl.com/y5hj3swp

Citation: Dessu S, Dawit Z, Bojola F (2019) Assessment of birth preparedness & complication readiness and associated factors among ANC attendant pregnant mothers in Arba Minch Town Governmental Institutions, Arba Minch, Southern Ethiopia. Int J Sex Reprod Health Care 2(1): 001-005.
DOI: http://dx.doi.org/10.17352/ijsrhc.000003