

# **The Role of Health Education in Promoting Utilization of Mother and Child Health Services in Khartoum North –Sudan-2019**

Abeer Magthop Mohammed Frage<sup>1\*</sup>, Hatim Rahamtalla Mohamed Ahmed<sup>2</sup>, Fatima Fadul Ali Osman<sup>3</sup>

Lecturer, Alzeim Alazhari University, Sudan<sup>1</sup>

Professor, University of Bahri, Sudan<sup>2</sup>

Associate Professor, Alzaiem Alazhari University, Sudan<sup>3</sup>

**ABSTRACT:** Maternal and child health care service is potentially one of the most effective health interventions for preventing maternal morbidity and mortality in particular places where the general health status of women is low. To reduce childhood morbidity and mortality in primary health care setting, countries has been encouraged to implement an essential package of care intervention that included skilled antenatal, delivery and postpartum care newborn care, nutrition, immunization of children and mother, the integrated management of childhood illness and the use of insecticide-treated bed nets in malarial areas. A quasi experimental community based study was conducted among mothers with children of under five years in Khartoum North Locality from 2015 -2019 with the aim to assess the effectiveness of health education intervention in promoting mother and child health services utilization rate. 400 women with under five children were selected by using a systematic random sampling technique. The intervention that continued for six months includes; health talks, home visits, video show, presentations with power points, focus groups discussion, exhibitions, distribution of printed materials, pamphlets, brochures and posters. The data was statistically analyzed by using the (SPSS) and significant t and  $\chi^2$  – tests. The study showed a significant increase in the participants' knowledge concerning MCH services at p value 0.00, a significant positive modification of participants' attitude towards using MCH services at p value 0.00, and a significant improvement in the participants' practices concerning the use of ANC at p value 0.00 and the number of antenatal visits, at p value 0.00. The results showed that the health education intervention had a noticeable effect on knowledge, outstanding improvement in mothers' attitudes and improvement in practices concerning the utilization of MCH services. The study recommended that Federal Ministry of Health has to evaluate the state health services to find out the reason behind underutilizing state health services, even though these services are available at health insurance system.

**KEYWORDS:** Maternal, Child, Health, Education

## **I. INTRODUCTION**

**Background:** Maternal and Child Health (MCH) refers to the promoted, preventive, curative and rehabilitative health care for mothers and children. It includes the sub-areas of maternal health, child health and family planning.<sup>(1)</sup> Maternal and child health services are having an increasingly important role in promoting optimal health following the birth of new baby and early family life, MCHs is at the forefront in providing health education messages that ultimately improve the health outcome of these families through universal and early contact. In Sudan MCHs provided in hospitals and health centers as in facility –based health systems (all services for women and children are provided in health centers and hospitals).<sup>(2)</sup> The very high level of morbidity and mortality in pregnant women and children in developing countries place them in high risk group.<sup>(3)</sup> A majority of the maternal deaths associated with pregnancy complications and child birth result from lack of access to and receipt of routine health care and emergency health care services. Underutilization of MCH services is one of the important contributing factors to high maternal mortality and child mortality.<sup>(4)</sup>

# International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: [www.ijirset.com](http://www.ijirset.com)

Vol. 8, Issue 4, April 2019

Approximately 536,000 maternal deaths occur annually; over 95% occur in Sub Saharan Africa and Asia. Among the developing regions, sub-Saharan Africa had the highest maternal mortality ratio (MMR) at 640 per 100,000 live births.<sup>(3)</sup> In Sudan; about one in nine children die before the age of five, under five mortality rate is 89 deaths per 1000 live births, it is 51 percent higher than global average. Child survival varies widely between States and regions.<sup>(5)</sup> Many of the health problems encountered by mothers and children in developing countries are preventable either by means of health education or regular supervision and immunization lives.<sup>(7)</sup> Quality care during pregnancy and child birth is essential to ensure health and well-being of both the mother and the child.

To reduce childhood morbidity and mortality in primary health care setting, countries has been encouraged to implement an essential package of care intervention that included skilled antenatal, delivery and postpartum care newborn care, nutrition, immunization of children and mother, the integrated management of childhood illness and the use of insecticide-treated bed nets in malarias areas.<sup>(8)</sup>

**Rationale:** MCH complications can be prevented and effectively managed by simple and affordable intervention.<sup>(9)</sup>

**Justification:** Approximately 536,000 maternal deaths occur annually.<sup>(3)</sup> Sudan has one of the highest rates of maternal and prenatal mortality.<sup>(5)</sup> Khartoum North is of low utilization of mother and child health services and inequality health services distribution, at the same time, the lack of adequate health services and transport in rural area reduce the likelihood of prompt and appropriate use of health services.

## OBJECTIVES:

**General objective:** To assess the effectiveness of health education intervention in promoting mother and child health services utilization rate

### Specific objectives:

- To determine the current situation of mother and child health services.
- To assess knowledge of mothers about mother and child health services
- To identify attitudes of mothers about mother and child health services
- To identify practices of mothers about mother and child health services
- 

## II. LITERATURE SURVEY

Few studies have explored the association between the mothers /caregiver's personal hygiene practices and child stunting in India. They found that mothers/caregivers, who reported washing their hands with, soap either before a meal or after defecation had a lower association with stunted children. Poor sanitation, lack of clean water and inadequate personal hygiene are associated with diarrheal disease, worm infestations, skin and eye infections and other vector borne diseases. Diarrhea is the second most serious cause of mortality in children under five, accounting for 13% of child deaths in developing countries. It is also an important contributor to childhood morbidity and poor growth and development. (16) a Descriptive Cross-sectional study was conducted in Nepal by Bhandari B, Shrestha S at 2015 among one hundred and fifty households having either under five children, postnatal mothers or pregnant women aim to assess the utilization of maternal and child health care services and nutritional status of under five children in Bungmati Village the study result in concerning the utilization of maternal health care services, 90.9% had done their four-me antenatal checkup, 94.2% had delivered their baby at hospital and 65% married women of reproductive age were using one of the family planning methods. Likewise, immunization of under five children showed 100% BCG coverage, 88% pentavalent DPT and Polio, 77% Measles and low coverage of injectable Polio vaccine. (18)

## III. MATERIAL AND METHODS

A quasi experimental community based study was conducted among mothers with children under five years in Khartoum North Locality. According to 2010 census there were 110785 children less than five years and 185797 women in reproductive age. 398 respondents were participated in the study.

Data was collected by questionnaires, interviews and observation methods, intervention, which continued for six months was prepared and implemented including; the health talks, video shows, focus group discussion, exhibition,

# International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: [www.ijirset.com](http://www.ijirset.com)

Vol. 8, Issue 4, April 2019

distributing printed materials and posters among the respondents. Follow up, and evaluation were conducted. Data was statistically analyzed by using the Statistical Package for Social Sciences (SPSS) and significant tests  $t$  and  $\chi^2$ .

## IV. RESULT

The study revealed that nearly two third (68.30%) of the participants' family monthly income range between (800-2000 SDGs). The following are the main findings of the study:

Knowledge:  
N=400

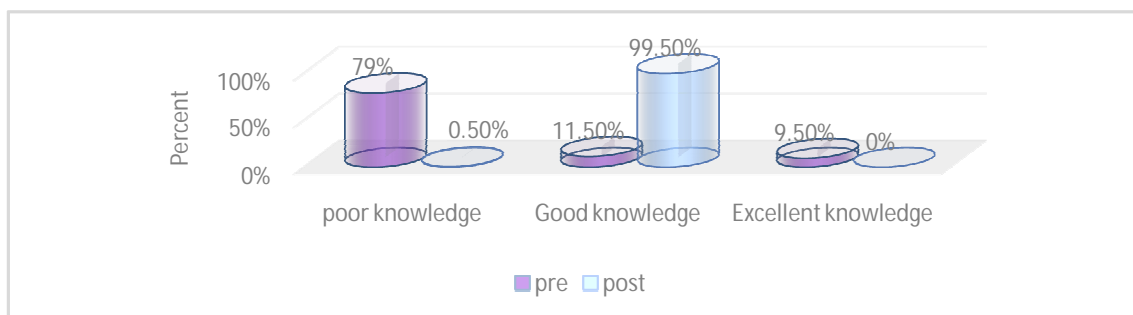
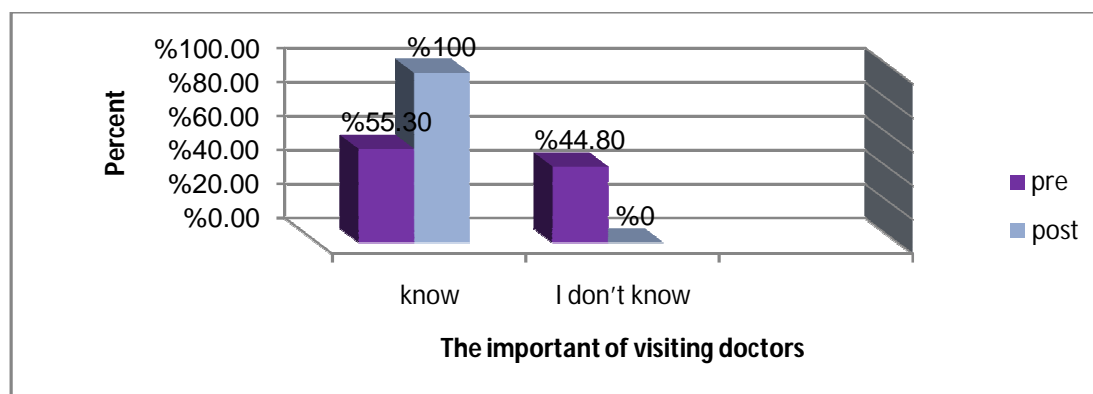


Fig.1 Distribution of the participants according to their knowledge concerning tetanus toxoid

There is a significant increase in the participants' knowledge after the intervention concerning knowing tetanus toxoid for good knowledge from 11.5% to 99.5% at  $t$ -test 17.616 df 399 and  $P$  value 0.00



N=400

Fig. 2 Distribution of the participants according to their knowledge concerning the important of visiting doctors

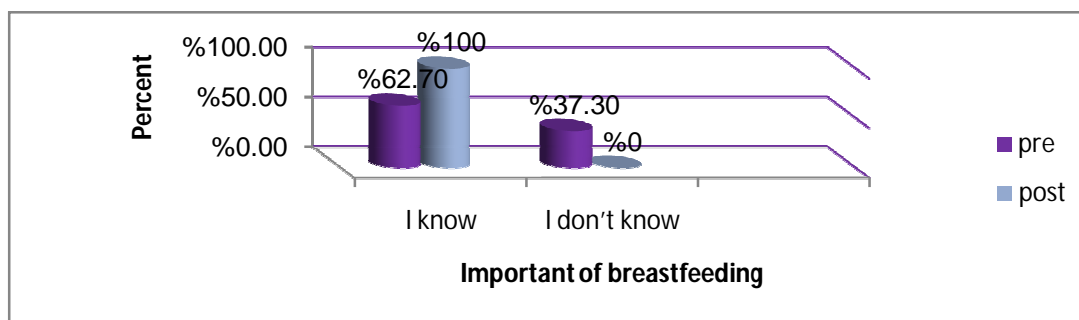
There is a significant increase in the participants' knowledge after the intervention concerning the important of visiting doctors, from 55.3% to 100% at  $t$ -test 17.799 df 399  $P$  value 0.00

# International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: [www.ijirset.com](http://www.ijirset.com)

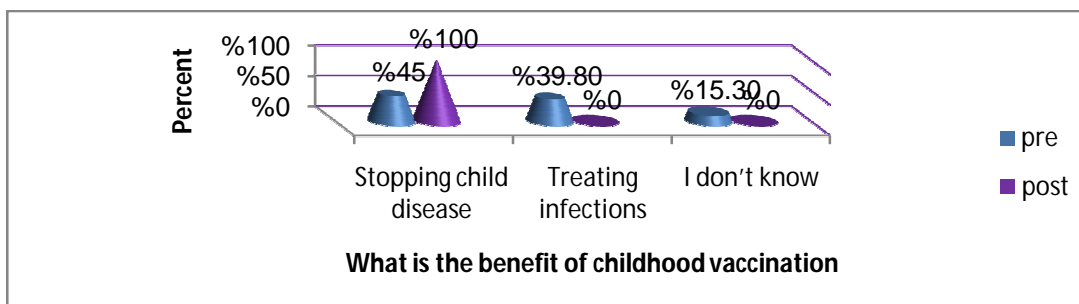
Vol. 8, Issue 4, April 2019



N=400

Fig. 3 Distribution of the participants according to their knowledge concerning the important of breastfeeding.

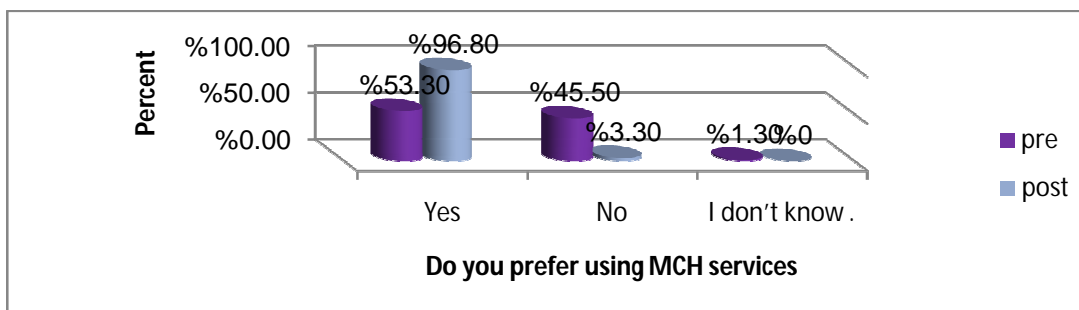
There is a significant increase in the participants' knowledge after the intervention concerning important of breastfeeding, from 62.7 to 100% at t-test 15.390 df 399 P value 0.00



N=400

Fig. 4 Distribution of the participants according to their knowledge concerning the benefit of childhood vaccination

There is a significant increase in the participants' knowledge after the intervention concerning benefit of childhood vaccination, from 45% to 100% at t-test 19.573 df 399 P value 0.00



N=400

Fig. 5 Distribution of the participants according to their attitude towards using MCH services

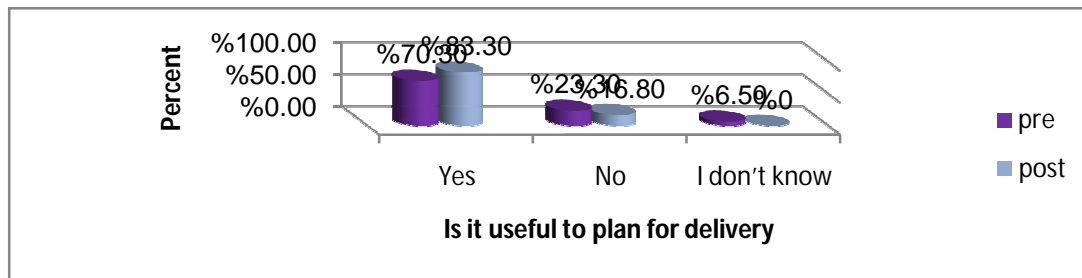
There is a significant positive modification of the participants' attitudes after the intervention towards using MCH services, from 53.30% to 96.80% at t-test 17.132 df 399 P value 0.00

# International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: [www.ijirset.com](http://www.ijirset.com)

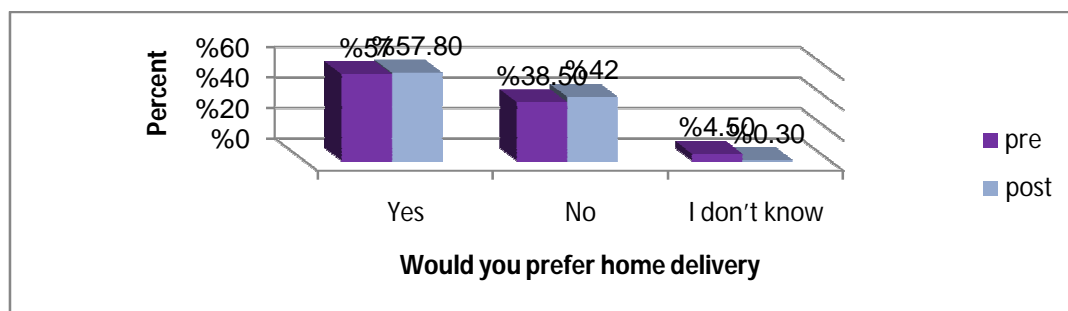
Vol. 8, Issue 4, April 2019



N=400

Fig. 6 Distribution of the participants according to their attitude towards the usefulness of planning for delivery

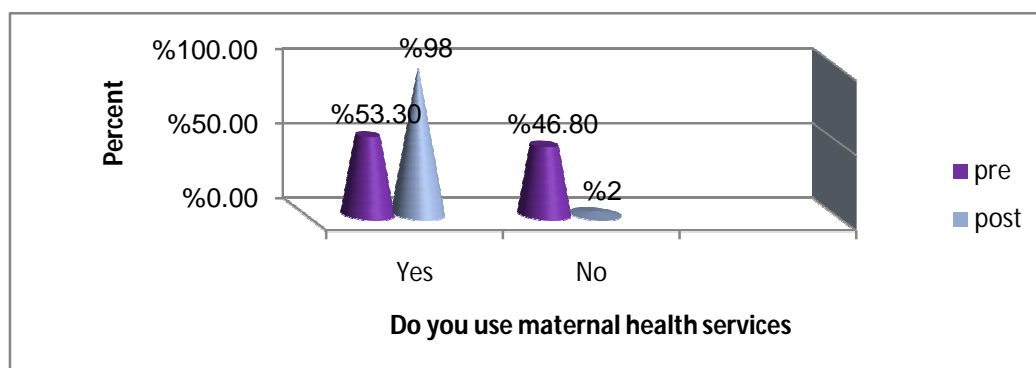
There is a significant positive modification of the participants' attitudes after the intervention towards the usefulness of planning for delivery, from 70.3% to 83.3% at t-test 7.335 df 399 P value 0.00



N=400

Fig. 7 Distribution of the participants according to their attitude towards home delivery

There is a significant positive modification of the participants' attitudes after the intervention towards home delivery, from 57% to 57.80% at t-test 3.995 df 399 P value 0.00



N=400

Fig. 8 Distribution of the participants according to their practice concerning the use of maternal health services

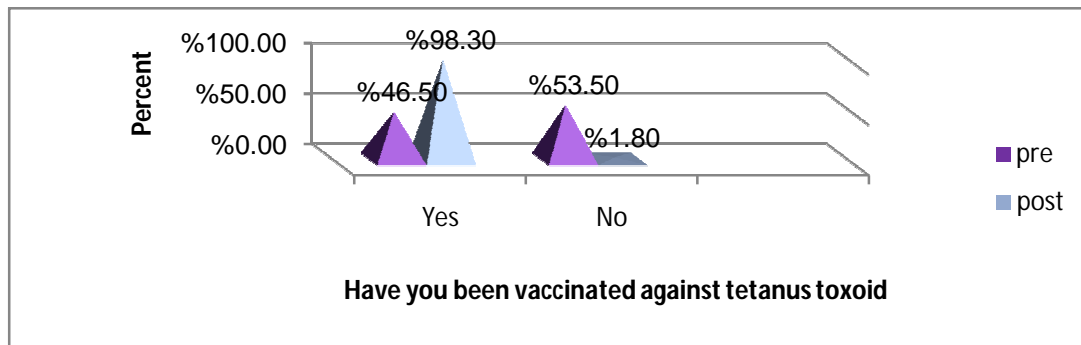
There is a significant change of the participants' practices after the intervention concerning the use of maternal health services, from 53.3% to 98% at t-test 17.977 df 399 P value 0.00

# International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: [www.ijirset.com](http://www.ijirset.com)

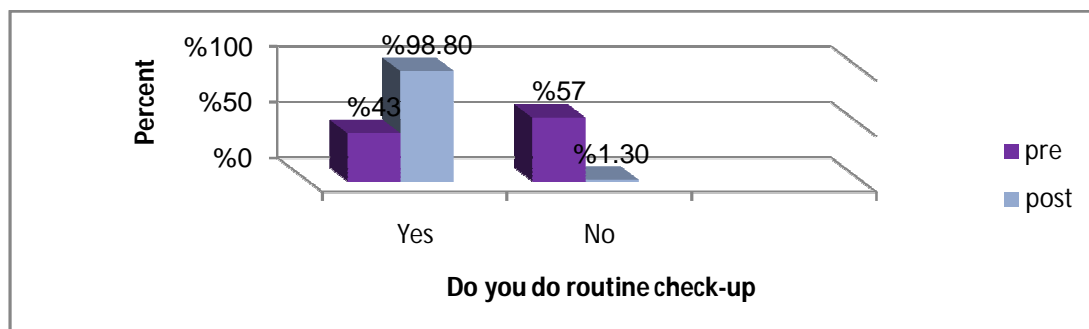
Vol. 8, Issue 4, April 2019



N=400

Fig. 9 Distribution of the participants according to their practice concerning vaccination against tetanus toxic

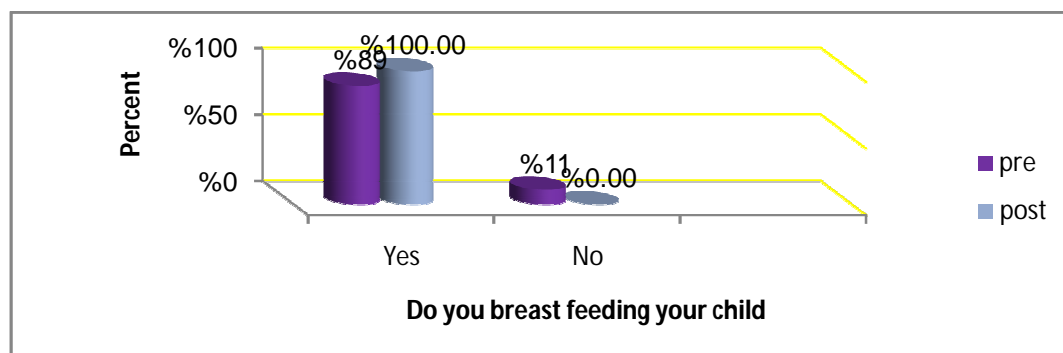
There is a significant increase in the participants' practices after the intervention concerning vaccination against tetanus toxic, from 46.50% to 98.30% at t-test 20.687 df 399 P value 0.00



N=400

Fig. 10 Distribution of the participants according to their practice concerning the routine check-up

There is a significant increase in the participants' practices after the intervention concerning the routine check-up, from 43% to 98.80% at t-test 22.421 df 399 P value 0.00



N=400

Fig. 11 Distribution of the participants according to their practice concerning the breast feeding of child

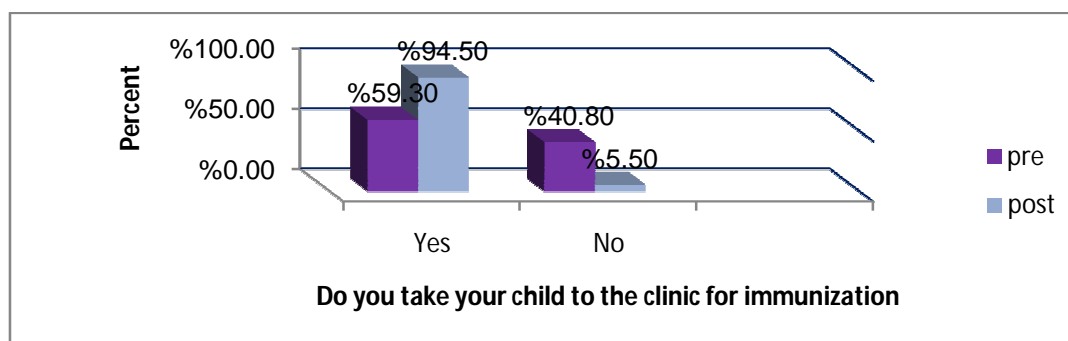
# International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: [www.ijirset.com](http://www.ijirset.com)

Vol. 8, Issue 4, April 2019

There is a significant positive change of the participants' practices after the intervention concerning the breast feeding of child, from 89% to 100% at t-test 7.022 df 399 P value 0.00



N=400

Fig. 12 Distribution of the participants according to their practice concerning the child immunization

There is a significant increase in the participants' practices after the intervention concerning the child immunization, from 59.30% to 94.50% at t-test 14.738 df 399 P value 0.00

There is a significant change of the participants' practices after the intervention concerning family planning practices, from 57.5% to 60.8% at t-test 3.189 df 399 P value 0.00.

## V. DISSCUTION

The result showed significant increase in the participants' knowledge concerning MCH services after the intervention at p value 0.00, and a significant increase in participants' knowledge concerning maternal tetanus after intervention at p value 0.00. This indicates that the health intervention has a significant effect on the participants. These results agree with the finding of study that conducted in Pakistan in 2016 by Mahnoor Khattak et al, which showed that 64.6% of the participants knew what tetanus vaccination was<sup>(12)</sup> Concerning the breast feeding there was a significant increase in participants' knowledge concerning the important of breast feeding at first few hours after delivery. This result agrees with the study that conducted in Bemidji in 2014 by Hadeel Adnan, which showed that nearly all of the mothers (96.6%) said that breastfeeding helps the uterus to return to its pre- pregnancy state more quickly. It also agrees with the study that conducted in India in 2015 by Naseem A et al, which showed that majority of participants' (72.8%) had knowledge about advantages of breastfeeding that child remains healthy.<sup>(10)</sup>

The study revealed that there was a significant increase in participants' knowledge concerning benefit of childhood vaccination after intervention at p value 0.00.

This result agrees with study that conducted in Nigeria in 2013 by Chris-Otubor, G.O et al, which showed that 94% had an overall good knowledge on benefit of childhood vaccination they said that immunization prevents childhood disease.<sup>(11)</sup>

4.3 Attitudes: The result revealed that there was a significant positive modification of participants' attitude towards using MCH services at p value 0.00 after intervention and towards the easiness to communicate with the health workers at p value 0.00 These results agree with the study that conducted in central Ethiopia in 2012 by Birmeta et al. which showed that when ANC users asked about the personal respect of health workers at ANC unit, the majority 91.2% reported that health workers were respectful for them.<sup>(13)</sup>

The finding showed a significant positive modification of participants' attitude towards the useful of planning for delivery from 70.3% to 83.3% at p value 0.00 after intervention. Planning for delivery needs to be part of all prenatal care services it composed of; clean and comfortable place to give birth in which women feels safe and confident including in home and skilled attendant. This result agrees with the study



# International Journal of Innovative Research in Science, Engineering and Technology

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Visit: [www.ijirset.com](http://www.ijirset.com)

Vol. 8, Issue 4, April 2019

that conducted in Kenya in 2016 by John Kyunguti Ndeto et al, which showed that 51.3% of participants strongly agree with planning for delivery at p value 0.012.<sup>(14)</sup>

4.4 practices: The study showed that there was a significant change in the participants' practices concerning the use of T.T vaccination at p value 0.00, 98.3% of the participants' had been vaccinated after intervention. This result agrees with study that conducted in Pakistan in 2016 by Mahnoor Khattakand et al, which showed that 56.9% of the participants had been vaccinated.<sup>(12)</sup> The study revealed that there was a significant positive change of participants' practices concerning the breast feeding of child at p value 0.00 after health education intervention. This result agrees with the study that conducted in Bemidji in 2014 by Hadeel Adnan, which showed that starting breastfeeding within an hour after delivery was reported by (86.66%).<sup>(15)</sup> The result showed a significant positive change in the participants' practices concerning the child vaccination and regular taking all doses at p value 0.00 after health education intervention. This result agrees with the study that conducted in India in 2014 by Sonia Tiwari and et al, showed that the coverage of children immunized against the six vaccine preventable diseases was 85%.<sup>(16)</sup>

The study revealed that the health education regarding MCH services not only increase participants' knowledge, but also improved their healthy behavior by using the MCH services. The result showed a significant positive change in the participants' practices concerning the use of ANC at p value 0.00 after intervention and the number of antenatal visits, at p value 0.00. This result agrees with the study that conducted in Nigeria in 2016 by Ogunba BO, which showed that ANC visits were made by 92% of the participants' and 44.4% attended between 7-12 ANC visits at p value 0.039 (17)

## VI. CONCLUSION AND RECOMMENDATIONS

1.1 Conclusion: MCH services utilization are crucial in determining the health of mother and children. This study has provided valuable information to answer questions about the existing state of MCHs knowledge, attitudes and practices among women at reproductive age in Khartoum North Locality. The result of the conducted health education intervention proved that the health education intervention towards MCH is very effective in increasing the overall knowledge about utilization of maternal and child health services and makes positive modification in participants' attitude toward MCH services utilization and the health of the mothers and has a significant impact on the targeted mothers' practices towards the MCH services.

Recommendations: The study stated that the Federal Ministry of Health should distribute the skilled health cadres and health facilities equally between rural and urban areas, improve the relationship between the health staff and the mothers in the state health facilities and train TBAs and Community health promoters to improve the utilization of maternal health care services. The State Ministry of Health should encourage further studies to identify the determinants of underutilization of MCH services.

## REFERENCES

1. K.Park . Preventive and social medicine, 23ed 2015.
2. WHO: managing maternal and child health programs: a practical guide, Regional office for the Western pacific, Manila, 1997.
3. WHO: trend in maternal Mortality: 1990-2010, Geneva, Switzerland, WHO, UNICEF, UNFPA and World Bank.
4. Jonathan B.Kotch , Maternal and child health, programs, problems and policy in public health , third edition by Jones & Bartlettusa. 2013.
5. Paul Gubbins and Damien de walque, maternal and child health in Sudan. The World Bank group, 2013.
6. Beniam Daniel, Nardos Tesfaye, et al. Knowledge and Attitude on Growth Monitoring and its Associated Factors among Mothers/Guardians of Children Less than Two Years in Areka Town, Southern Ethiopia, 2017.
7. UNICEF, WHO, UNPD, World Bank Group, trend in maternal mortality 1990-2015, 2015.
8. Summary record of the third meeting .Tamna hall, B.5th floor inters convention center, Jeju republic of Korea -Tuesday -11 Sep 2007 at 14:00pm.
9. WHO: health in 2015 from MDGs to SDGs: Geneva, 2015.
10. Naseem A, Mazher N. A study to evaluate the knowledge, attitude and practices of exclusive breast feeding among primi mothers of healthy term neonates in a tertiary care hospital and predictors of failure of establishment of exclusive breast feeding in first six months. Int J Contemp Pediatr 2016.
11. Chris-Otubor, G.O, et al. Assessment of Knowledge, Attitudes and Practices of Mothers in Jos North Regarding Immunization. IOSR Journal Of Pharmacy. Volume 5, Issue 6 (June 2015), PP. 34-45
12. Khattak M, Zia L, Afridi AR, Khan S, Shiraz A. Knowledge, Attitude and Practice of pregnant women towards tetanus immunization in selected tertiary care hospitals of Ha yatabad, Peshawar. J Med. Stud. 2016;2(2):12-7.



## International Journal of Innovative Research in Science, Engineering and Technology

*(A High Impact Factor, Monthly, Peer Reviewed Journal)*

Visit: [www.ijirset.com](http://www.ijirset.com)

**Vol. 8, Issue 4, April 2019**

13. Kidist Birmeta, Yohannes Dibaba and Desalegn Woldeyohannes. Determinants of maternal health care utilization in Holeta town, central Ethiopia. 2013, 13:256
14. John Kyunguti Ndeto, Justus O. S. Osero et al. Utilization of individual birth plan during pregnancy and its determinants in Makueni County, Kenya International Journal of Community Medicine and Public Health January 2018 Vol 5 Issue 1.
15. Tanash, Hadeel Adnan, Breastfeeding knowledge, practice, attitudes, and influencing factors: Findings from a selected sample of breastfeeding mothers in Bemidji, Minnesota .2014.
16. - Sonia Tiwari, et al. health care seeking behavior and awareness of maternal and child health practices in rural village of Madhya Pradesh. National Journal of Community Medicine Volume 5, Issue 1, Jan – Mar 2014.
17. C.O. Omolase , et al .awareness of family planning amongst antenatal patients in a Nigerian community: an exploratory study , Annals of Ibadan Postgraduate Medicine. Vol. 7 No. 1 June, 2009.
18. Bhandari B, Shrestha S. Utilization of Maternal and Child Health Care Services and Nutritional Status of Under Five Children in Bungmati Village Development Committee, Lalitpur, Nepal. BJHS 2017; 2 (1) 2: 93-97.
19. Federal Ministry of Health, Directorate General of Planning policy & research. Knowledge, Attitudes and Practices (KAP) in the Sudanese communities for the health seeking behavior. November 2011.