



**Review Article**

**Volume 9, Issue 2 -2023**

**DOI:** <http://dx.doi.org/10.22192/ijcrms.2023.09.02.004>

## **Update on mothers towards neonatal umbilical cord sepsis: African perspectives**

**\*Emmanuel Ifeanyi Obeagu<sup>1</sup>, Getrude Uzoma Obeagu<sup>2</sup>,  
Esther Musiimenta<sup>2</sup>, Yakubu Sunday Bot<sup>1</sup> and  
Abdulwasiu Oladele Hassan<sup>3</sup>**

<sup>1</sup>Department of Medical Laboratory Science, Kampala International University, Uganda.

<sup>2</sup>Department of Nursing Science, Kampala International University, Uganda.

<sup>3</sup>Department of Medical Laboratory Science, Achievers University, Owo, Ondo State, Nigeria.

E-mail: [emmanuelobeagu@yahoo.com](mailto:emmanuelobeagu@yahoo.com)

### **Abstract**

Neonatal umbilical sepsis continues to be a major health problem with up to 323 of every 1000 neonates seen in clinics presenting with clinical symptoms. The unhealed umbilical cord is a major entry point for local and invasive infections during the neonatal period and is rapidly colonised by bacteria from the environment. The reasons for the high incidence of neonatal sepsis in developing countries are high incidence of home deliveries, unhygienic cord cutting, application of unclean substances to the stump and covering the stump with unclean fabric.

**Keywords:** mothers, neonates, umbilical cord sepsis

### **Introduction**

Globally, it is estimated that over four million newborns die annually from serious neonatal infections (Lawn and Zupan, 2010). Neonatal umbilical sepsis continues to be a major health problem with up to 323 of every 1000 neonates seen in clinics presenting with clinical symptoms (Mullany *et al.*, 2011). In low income countries, about 60% of births occur without skilled attendants, and most of these at home. Worldwide, 60 million births happen outside facilities and even for some facilities birth hygienic practices may be sub-optimal. The

unhealed umbilical cord is a major entry point for local and invasive infections during the neonatal period and is rapidly colonised by bacteria from the environment (Obeagu, 2021; Ede and Obeagu, 2018).

Sub-Saharan Africa contributes 67% to the global under-five mortality and it is also affirmed that the prevalence is even higher in communities that practice application of non-sterile home remedies to the cord (Wallace and Frisch, 2009). In Pemba Island, Zanzibar and Tanzania, encephalitis occurred in 954 (5.5%) out of 17,198 infants within seven days of age (Mullany *et al.*, 2011).

In a study establishing the prevalence of neonatal umbilical cord sepsis in five African countries; Egypt, Nigeria, Democratic Republic of Congo, Libya and Malawi, picked at random (Mullany *et al.*, 2011), it was revealed that of the 25.37 million neonates enrolled in their study, 6.785(26.7%) neonates had umbilical sepsis and 0.521(7.7%) of them died.

### **Attitudes and factors associated with neonatal umbilical cord sepsis**

In a community based study done in Uganda found that 46% of the newborns had a facility delivery and only 38% were judged to have had good cord care (Waiswa *et al.*, 2010). Mothers were putting powder on the cord. Multiparous mothers were likely to have safe cord practices as were mothers who had attained secondary education and above. In their study, it was further noted that Traditional Birth Attendants are perceived as effective care-givers since they provide herbal medicine, and as more mature providers with 'better' personalized care compared to health workers (Waiswa *et al.*, 2010). Furthermore, TBAs are easily accessible to the community day and night. In addition, it was believed that herbs from TBAs give magical effects which modern medicine may not be able to provide.

Tanzanian study of 3262 pregnant women who received health education based on the principles of the "six cleans" recognized by WHO (clean hands, clean perineum, clean delivery surface, clean cord cutting and tying instruments, clean cutting surface) and also used clean delivery kits found that the newborns whose mothers used the delivery kit were 13.1 times less likely to develop cord sepsis than infants whose mothers did not use the kit (Mosha *et al.*, 2008). Furthermore, infants of women who bathed before delivery were 3.9 times less likely to develop cord sepsis (Mosha *et al.*, 2008).

Lawn *et al.* (2006), in their study to find out the reasons for high neonatal deaths in one of the hospitals in rural Algeria, it was noticed that few mothers could make the recommended four ANC

visits where they are taught on birth preparedness and care of baby/neonate after birth among others. As a result, most mothers stick on their cultural and traditional practices on neonatal cord care, most of which are not so effective in preventing pathogens from entering via the neonate's cord stump and hence causing sepsis. These scholars also found out that most of their respondents were not aware of the need for postnatal health care attendance except for immunization of children.

The reasons for the high incidence of neonatal sepsis in developing countries are high incidence of home deliveries, unhygienic cord cutting, application of unclean substances to the stump and covering the stump with unclean fabric (Mullany *et al.*, 2011).

Polygamous practices, financial constraints, deep rooted cultural beliefs on neonatal cord practices, peer influence on choice of care especially for PGs, poor attitudes and communication skills of health workers like ignoring clients & rudeness were among the factors associated with high prevalence of neonatal cord sepsis (Waiswa *et al.*, 2010).

### **The prevalence of umbilical cord sepsis among neonates**

The prevalence can be as high as 15% in the low income countries when large diagnostic criteria like the presence of moderate or severe redness around the cord are used and about 1% if more strict criteria like severe redness with pus around the cord are used (Mullany *et al.*, 2011).

Due to the paucity of data and unclear diagnostic criteria, the prevalence of this condition is not well established and there is a wide variation in rates of cord sepsis among neonates in various developing countries. Cord sepsis is not common in the high income countries. However, in the low income countries evidence shows that cord infections are more common (Vural and Kisa, 2008). In a Nepal community-based, study evaluated newborns for umbilical cord infection (pus, redness, and swelling) and found cord sepsis in 14.9% (2575 of 17,198) newborns (Kerber *et*

al., 2007). The prospective observational study done in a Special Care Baby Unit of a regional referral hospital in Oman, it was found that cases of cord sepsis were 16.9% (1902 among 11260 births) (Sawardekar, 2007).

## Conclusion

The reasons for the high incidence of neonatal sepsis in developing countries are high incidence of home deliveries, unhygienic cord cutting, application of unclean substances to the stump and covering the stump with unclean fabric.

## References

Ede, V.I. and Obeagu, E.I. (2018). Ethical Issues in Human Embryonic Stem Cell Research: A Christian Perspective. *International Journal of Medical Science and Dental Research*. 1 (2): 8-14.

Kerber, K.J., de Graft-Johnson, J.E., Bhutta, Z.A., Okong, P., Starrs, A., Lawn, J.E. (2007). Continuum of care for maternal, newborn, and child health: from slogan to service delivery. *Lancet*, 370 (9595): 1358-1369.

Lawn, J.E., Cousens, S., & Zupan, J. (2010). 4 million neonatal deaths: when? Where? Why? *Lancet*, 365(9462): 891-900. Doi: 10.1016/S0140-6736(05)71048-5.

Lawn, J.E., Wilczynska-Ketende, K., Cousens, S.N. (2006). Estimating the causes of 4 million neonatal deaths in the year 2008. *International Journal of Epidemiology*, 35(3): 706-718. 10.1093/ije/dyl043.

MOH (2007). Situation analysis of newborn health in Uganda: *Current status and opportunities to improve care and survival*.

Mosha, F., Winani, S., Wood, S., Changalucha, J., Ngasalla, B. (2008). Evaluation of the effectiveness of a clean delivery kit intervention in preventing cord infection and puerperal sepsis among neonates and their mothers in rural Mwanza Region, Tanzania. *Tanzania Health Res Bull*, 7(3):1858-1860

Mullany, L.C., Darmstadt, G.L., Katz, J., Khatry, S.K., LeClerq, S.C., Adhikari, R.K. (2011). Development of clinical sign based algorithms for community based assessment of omphalitis. *Journal of Child-Fetal-Neonatal health*, 91(2):99-104.

Obeagu, E.I. (2021). Comparative Study of Serum Iron and Hemoglobin Levels of Cord Blood of Normal Neonates and that of Maternal Blood in Federal Medical Centre Owerri. *Journal of Clinical and Laboratory Research*. 4(1); DOI:10.31579/2768-0487/055

Sawardekar, K.P. (2007). Changing spectrum of neonatal omphalitis. *Pediatric Infections and Diseases Journal* 23 (1):226.

Vural, G., Sulaiman, A., and Kisa, S. (2008). Umbilical cord care. A pilot study comparing topical human milk, providone, and dry care. *Journal of Obstetrics, Gynaecology and neonatal nursing* 126(35), 91-93. doi 10.1111/J.15326909.2006.00012

Waiswa, P., Peterson, S., Tomson, G., Pariyo, G.W. (2010). Poor newborn care practices, a population based survey in eastern Uganda. *BMC Pregnancy*, 5(13) 10:9.

Wallace and Frisch (2009). Perception of care and services by clients and families: a personal experience. *Journal of Advanced Nursing*, 29(5):1144-1153

### How to cite this article:

Emmanuel Ifeanyi Obeagu, Getrude Uzoma Obeagu, Esther Musiimenta, Yakubu Sunday Bot and Abdulwasiu Oladele Hassan. (2023). Update on mothers towards neonatal umbilical cord sepsis: African perspectives. *Int. J. Curr. Res. Med. Sci.* 9(2): 18-20.  
DOI: <http://dx.doi.org/10.22192/ijcrms.2023.09.02.004>

### Access this Article in Online

	Website: <a href="http://www.ijcrims.com">www.ijcrims.com</a>
	Subject: Medical Sciences
Quick Response Code	