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Social factors in neonatal tetanus: focus on maternal educational status

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Neonatal tetanus is a serious but preventable disease of the newborn. The WHO has been coordinating efforts aimed at the elimination of the disease globally by reducing the incidence of NNT to less than one case per 1000 live births in every district of the world. Despite the efforts, the disease is still highly prevalent in Nigeria as the country is among the nations that contribute about 90% of cases of neonatal tetanus in the world. The aim of the study was to identify the educational status of mothers as a contributing factor in the causation of NNT. The records of all hospital admissions of newborns with diagnosis of tetanus from January 2006 to December 2009 were reviewed and relevant data extracted from the records included age and educational status of the mothers, sites of antenatal care and delivery and modes of cord care. The extracted data were subjected to descriptive analysis. Twenty one cases of NNT were admitted during the period, including 9 males and 12 females with a mean age of 6.9 days. Eighteen mothers or 86% had no formal education or read up to primary school level. None of the mothers had post secondary education. Most of the mothers delivered in unorthodox facilities and utilized non proprietary products for cord care. Low educational attainment of mothers is a major social factor in the development of NNT because the risk factors appear to revolve around it.

Keywords: Neonates, Tetanus, Education, Mothers.

INTRODUCTION

Neonatal tetanus is the result of contamination of umbilical cord of a baby with the spores of Clostridium tetani following unhygienic practices like home delivery and use of contaminated materials in the care of the umbilical cord and body of babies. It is responsible for 14% of all neonatal deaths in the world and leads to high case fatality rate of more than 80% (Barr, 1991).

On the whole, Africa contributes nearly 40% of all deaths resulting from neonatal tetanus internationally (Caldwell, 1979). Nigeria is one of the 27 countries that account for 90% of neonatal tetanus cases worldwide (16 Cleland et al., 1988). Thus, the World Health Organization emphasizes that these countries encounter serious challenges in the elimination of the disease due to limited health infrastructure, low immunization coverage and serious manpower as well as logistical constraints. Accordingly, more than 50% of the districts of these countries are at high risk for the infection (Eregie and Ofovwe, 1995).

Previous studies in Nigeria have identified some factors that tend to increase the risk for the development of tetanus. Some of the studies examined clinical and epidemiological features (Fabgule, 1999; Field manual for Neonatal Tetanus elimination, WHO/V&B/99.14; Goodburn et al., 1990) while others highlighted in addition the contribution of cultural practices (Grange, 1991; Harrison, 1985) towards the disease. This study describes the educational levels of mothers of newborns presenting with NNT to Modic Medical Centre in Benin City with the aim of highlighting the educational attainment of mothers as a major risk factor in the development of the disease.

PATIENTS AND METHODS

This is a retrospective survey of the case files of babies admitted with a diagnosis of Neonatal Tetanus based on
Information extracted from the records included the age and educational status of the mothers, sites of delivery and modes of cord care. The data obtained were descriptively analyzed and expressed in percentages and tables.

RESULTS

Twenty one cases of neonatal tetanus were admitted during the 4 – year period (January 2006 to December 2009) and made up of 9 males and 12 females aged 4 to 13 days with mean age of 6.9 days. The mean age of the mothers was 21.1 years with a range of 17 to 27 years.

Thirteen (61.9%) mothers had Primary Education while five of them (23.8%) had no Formal Education. By comparison, two (9.5%) mothers read up to the Junior Secondary School Level while one (4.8%) attained the Senior Secondary School level. None of them had post secondary education.

The sites of Antenatal Care in relation to the levels of education of the mothers show that out of the 18 mothers with either Primary Education or none, 11 (61.1%) had ANC in un – orthodox facilities while 7 (38.9%) had care in Health facilities. On the other hand, of the 3 with secondary education, 2 (66%) had ANC in a Non-health facility while only 1 (33.3%) was in a health facility as depicted in the table.

The relationship between the place of delivery and the levels of education of the mothers show that out of the 18 mothers with either Primary Education or none, 11 (61.1%) had ANC in un – orthodox facilities while 7 (38.9%) had care in Health facilities. On the other hand, of the 3 with secondary education, 2 (66%) had ANC in a Non-health facility while only 1 (33.3%) was in a health facility as depicted in the table.

The relationship between the place of delivery and the levels of education attained by the mothers show that of those with no education, 2 (40%) delivered at home while 2 (40%) in a TBA facility and 1 (20%) in a health facility.

In the same way, of the 13 with primary education, 8 (61.5%) delivered at home while 4 (30.8%) was in a health facility and 1 (7.7%) in a TBA.

The relationship of the levels of education of the mothers and the mode of cord care revealed that of those with no education, 4 (80%) utilized herbs while 1 (20%) used spirit. By comparison, of the ones with primary education, 9 (69.2%) used herbs while 2 (15.4%) applied chalk and the remaining 2 (15.4%) employed spirit. Of those with secondary education, 1 (33.3%) each used herb, spirit and metholatum respectively.

DISCUSSION

This study shows that Neonatal tetanus is associated with low levels of maternal education, which is similar to the finding by others (Orumabo and Mbagbaw, 1986; Osinusi et al., 1986; Orumabo et al.,). Thus, this observation is not surprising because low female educational attainment contributes to poor health outcome generally, and safety as well as reduced survival of children. Indeed, the educational statuses of mothers determine the health of children because women with higher levels of education tend to seek healthcare early and keep to medical advice (Orumabo et al., Oyedeji et al., 2002).

The study also demonstrates a possible linkage between the level of maternal education and risk factors in NNT such as lack of antenatal Care, delivery at home and in unorthodox facilities and the usage of harmful traditional practices for skin and cord care because these practices were more prevalent with the mothers with lower educational levels. This study, thus found that majority of the mothers did not attend ANC, delivered at home and utilized non-proprietary agents for the care of the cord. Hence, ordinarily; the baby of such a mother is most likely to develop Tetanus. This was nevertheless, not always the case, as some babies of those who received ANC in health facilities, also developed Neonatal Tetanus. This finding means that irrespective of the site of ANC, and delivery, the newborn of the illiterate and poorly educated mother is highly prone to Tetanus because she is more likely to expose her baby to the predisposing factors as highlighted earlier.

It is also instructive to note that this study found that no single case of neonatal tetanus was recorded in the babies of mothers who attained post secondary educational level. Thus supporting the results of study by Caldwell 15 that educated mothers deploy preventive measures to safeguard the safety and survival of their children. Therefore, this finding further supports the view
that lower levels of educational attainment predisposes to the development of neonatal tetanus. For this reason, the results of this study illustrates that the risk factors in neonatal tetanus revolve around low educational attainment of mothers as the central theme.

The results of this study, thus, reaffirms, that illiteracy is associated with lack of ANC and home delivery, and the subsequent use of herbs and products, not approved for the management of the cord and skin of babies because of the likelihood of predisposition to contamination of the newborn by pathogenic organisms.

Ante Natal Care provides opportunity for mothers to receive tetanus prophylaxis and health education on the art of mother craft. In this regard, health education is aimed at promoting and reinforcing the need for clean delivery and post natal care such as umbilical cord handling and campaign against harmful traditional practices including scarification marks and use of sand, herbs and cow’s dung on the body of the newborn. Moreover, the results of this study suggests that the illiterate and poorly educated mothers do not seem to benefit from the educational opportunities offered by ANC either due to disbelief in or outright non-compliance with the lessons learnt during such prenatal instructions. On the other hand, it could be assumed that this finding may be a reflection of either inappropriate communication skills by workers in ANC or points to in – attention on the part of some of the mothers.

Besides, the delivery of a baby in a health facility by a poorly educated mother did not offer protection against Tetanus because such mothers’ often deployed harmful practices that promoted the development of the infection as was revealed in some of the mothers in this study. Consequently, this observation agrees with the finding of other reports (Orumabo and Mbagbaw, 1986; United Nations. Millennium Development Goals; UNICEF, WHO,UNFPA, 2005; World Health Organization, 1999), that poorly educated mothers do not make use of health promoting and disease preventive services to safeguard the lives of their children.

As a result, there is need to promote Female Education and Increase the level of public awareness regarding the use of health centres and facilities by all pregnant women irrespective of marital status or age of the mothers. In addition, the curriculum of schools ought to include the teaching of facts for life (Oyedeji et al., 2002), to ensure that the right knowledge, attitudes and practices as well as orientation are inculcated in Nigerians, right from primary school age. Indeed, the lessons on facts for life, exposes the pupil to essential information on issues such as basic hygiene, timing of births, safe motherhood, child growth and immunization as well as diarrhea disease, respiratory infection, malaria, AIDS and child development. Needless to say, the measure will promote safe delivery practices and reduce deaths from Tetanus.

Consequently, the results of this study supports the promotion of Female education as a global strategy to prevent neonatal tetanus and safeguard child survival which is in consonance with the objectives of the Millennium Development Goals 2 and 4 (World Health Organization, 1990—1997).

CONCLUSION

The result of this study illustrates that the risk factors in neonatal tetanus revolve around a central theme which is low educational attainment of mothers.

RECOMMENDATIONS

All efforts must be geared to encourage all stakeholders particularly the Government to implement mass education of the citizenry in line with the National policy on education.

Additionally, the government should enforce the education of the girl child up to at least the Junior Secondary School Level.

Appropriate lessons on health education with emphasis on basic hygiene, immunization and other child survival strategies should be provided in the curriculum of schools.

All those involved in taking deliveries should be identified and taught basic lessons on safe delivery practices.

REFERENCES


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