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RESEARCH ARTICLE

ASSESSMENT OF KNOWLEDGE OF MOTHER ON DANGER SIGNS OF NEONATAL AND POSTNATAL ILLNESS AND HEALTH SEEKING BEHAVIOUR AMONG PREGNANT AND POSTPARTUM MOTHER IN GEDEO ZONE, 2014/15

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ABSTRACT

Infant and under five mortality in developing countries has declined in the past two decades while the new born mortality has not significantly changed. Most neonatal death take place at home, this indicate that lack of early recognition on the danger sign and low treatment seeking behavior of mothers (care taker) towards modern health care service. The objective of this study is to assess knowledge of mother on danger signs of neonatal and postnatal illness and health seeking behavior among pregnant and postpartum mother in Gedeo Zone, 2014/15. A community based cross-sectional study design, supplemented with qualitative study is conducted. The study period is done from 1/11/2014-30/11/2014 and the study populations is all sampled pregnant and postpartum mothers who live in Gedeo Zone during study period. Sample size is determined by Level of significance (0.05), Power (0.50), Proportion of Knowledge of newborn danger signs on Mother's response was 29.3% according to a study result in SNNPR which result in sample size of 318.Considering design effect of 2 and adding 10 % for non-response rate, the final sample size is 700. Focus group discussion and in-depth interview was conducted with pregnant and postpartum mothers and health care provider respectively and triangulated with quantitative findings. The sampling procedure will involve a multistage stratified cluster sampling technique. A total of 700 respondents were included in the study and giving 100% response rate. The mean ages of the respondent was 25.8 (SD± 8) with a range age of 17 to 40. Marital Status of the respondent showed that 15(2.1%) were single followed by 655 (93.6%) were married & 12 (1.7%) were Widowed. Bivariate analysis showed that significant associations between treatment seeking behaviour of mother's from health center to new born with residence, educational status of mother & husband, income, family size, perception score towards new born health problem, ethnicity, affordability & accessibility and place of delivery however, the result of the multivariate analysis showed that, Residences, educational status of the respondent, delivery and family size were predictors of treatment seeking behaviour of mother's from health centre to new born. Residences, educational status of the respondent, delivery and family size were predictors of treatment seeking behaviour of mother's from health centre to new born thus as a recommendation appropriate health education intervention should be given to the respondent.

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INTRODUCTION

Despite the widely known intervention that could save the life of women, newborns and children, each minute one woman dies in childbirth around the globe, and each year millions of women, newborns and children die from preventable causes. Almost half of these deaths occur in Sub-Saharan Africa (WHO 2011; Dongree, 2012). Infant and under five mortality in developing countries has declined in the past two decades while the new born mortality has not significantly changed (WHO 2011; Dongree, 2012). Most neonatal death take place at home, this indicating that lack early recognition on the

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danger sign and low treatment seeking behaviour of mothers (care taker) towards modern health care service. The delay in health care access involves problem in disease recognition, decision making and transport to health care service. The major concern on integrated management of new born and childhood illness (IMCI) emphasizes mothers and community leaders should identify danger signs of new born and early referral to appropriate health care service (Dongree, 2012). Every newborn requires basic care which has to be provided by the mother at home. The World Health Organization (WHO) guidelines for essential newborn care include clean delivery, keeping the newborn warm, early initiation of breastfeeding, exclusive breastfeeding, care of the eyes, care during illness, immunization and care of low birth-weight newborns (de Zoysa *et al*., 1998; Bang *et al*., 2009). In line with this health extension package (HEP) was launched in 2003 in Ethiopia and aims to provide universal access to primary health care services. Ethiopia is committed to reducing under-five mortality rate to 68 deaths per 1,000 live births by 2015 in order to achieve Millennium Development Goal four and five. Between 2000 and 2011, under-five mortality in the country declined dramatically, from 166 to 88 deaths per 1,000 live births.

Community-based strategies to improve antenatal, childbirth, and newborn health care practices have been shown to reduce neonatal deaths. These community-based strategies include clean delivery practices (clean hands and delivery surface), clean umbilical cord care (cutting the umbilical cord with a sterile instrument, tying it with a sterile thread, and applying nothing to the cut stump of the cord), thermal care (immediate drying and wrapping of the baby after delivery, delay bathing the baby for more than six hours, and skin-to-skin contact with the mother), extra care for low birth weight or preterm birth (additional warmth, cleanliness and nutrition and early recognition of disease), and early and exclusive breastfeeding to minimize the risk factors associated with neonatal mortality in developing countries. Such strategies are ideal for Ethiopia because 90% of births still take place at home and the Health Extension Program (HEP) provides a platform for delivering such strategies (Ethiopia Demographic and Health Survey 2011).Thus this study assess house hold practice that can affect neonatal health, from the perspective of care giver and mothers' knowledge on danger Signs of Neonatal and Postnatal illness and treatment seeking behaviour in Gedeo Zone.

Although there have been dramatic improvements in child survival, the burden of mortality in the first month of life has remained virtually unchanged in many countries (Central Bureau of Statistics and Ministry of Planning and National Development, 2008). Of the 10 million babies born every year, approximately 4 million newborns die - three-quarters during the first week - of which at least 1 million die in their first 24 hours, 8 million during first year and around 10 million within 5 years of their life (Oy and Kate, 2009). Most newborn deaths occur at home, in the absence of any contact with a skilled health care provider (World Health Organisation, 2005). Lack of specificity of the clinical manifestation of various neonatal morbidities has been noted, resulting in difficulty in making a definitive diagnosis, and delay in seeking care and result high mortaliaity are some of the plausible explanation for new born health problem (Lancet Neonatal Survival Steering Team, 2011; Stoll, 2011). Knowledge level and treatment preferences for neonatal illness are generally low in Asian and Sub Saharan countries. Besides; it is known that some infants are growing unhealthy because of mother's lack of knowledge or wrong and traditional applications. Finds in India showed that knowledge regarding identification of danger signs and care seeking behaviour of the families has been found to be poor (Sutrisna *et al*., 2012). However evidence indicates that Knowledge on infant care of people taking care of children is very important for healthy development of children and mother who have correct knowledge and act proper to raise healthy children (World Health Statistics, 2006; Bang *et al*., 2005). Ethiopia has already made great initiatives to empower communities to improve maternal and child health through the HEW and Health development army (HAD) platforms. The Health Extension Program is credited with improving antenatal care utilization, use of family planning, and HIV testing during pregnancy (United Nations Children's Fund (UNICEF). (1998)). One study findings in Ethiopia indicate Mother's unprompted knowledge of newborn danger signs was rather low, with only 29.3% of respondents able to name 3 or more danger signs out of a list of danger signs (Salam, 1995). There is very limited information about newborn care practices in Ethiopia because many key indicators are not currently measured by routine surveys like the Demographic and Health Survey (Ethiopia Demographic and Health Survey, 2011). It is argued that most newborn deaths in developing communities are due to failure to firstly identify the signs of ill health on the neonate and address socioeconomic, cultural and logistical factors that influence proper health care seeking (Rosato *et al*., 2008; Marsh *et al*., 2012; Ahmed *et al*., 2010).

All this emphasize on the urgent need to understand knowledge of mothers on newborn illnesses and their health care-seeking behaviour for the sick neonate since prompt recognition of illness and immediate treatment is essential in averting complications and death due to neonatal illness (Lawn *et al*., 2010; Bhuta and Yusuf, 2009; Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, 2007). This study helps to investigate the cause of illness or death of new born from the perspective of mother which has a Paramount significant to tackle the health problem in the earliest phase of life in addition to this intervention has an impact on health of new born from the most widely used intervention such as promoting antenatal care, immunization, skilled attendance during delivery, immediate and exclusive breastfeeding, and clean cord care. Generally in Ethiopia specifically in study area traditional beliefs have a greater influence over prevailing attitudes and practices than governmental policies thus this study help to identify traditional belief that has negative consequence on ill-health of new born and shape the attitude towards new born care further more it gives emphasis on exploring actual practice that mother or care giver exercise to give care for new born. Thus this study embed important strategy to local health planner, Gedeo Zone health Bureaue and other government and nongovernmental organization that are working on health of new born furthermore thus this study gives direction to policy maker to consider the issue during formulating policy and for researchers to further see the issue and make appropriate recommendation at regional or national level.

MATERIALS AND METHODS

The study was conducted in Gedeo Zone, which is located about 365 Kms to the South of Addis Ababa, the capital city of Ethiopia, and 85 Kms to Awassa the regional capital city of SNNPR. The total area is estimated to be 1347 sq.km. This is about 1.2% of the region of SNNPR. The Zone has Six woredas and two towns namely Dilla and Yirgachefe. The total population of the Zone according to the 2007 census report is 1,694,868, out of which 849,484 are male and 845,384 are females. The majority of the population in the area belongs to the Gedeo ethnic group and Christian religion. The study was conducted from 1 Nov - 2 Dec 2014.4.2. Community based cross-sectional study design was used to assess Knowledge of Mother on Danger Signs of Neonatal and Postnatal illness and health seeking behaviour among pregnant and postpartum mother. Source population for quantitative study was all pregnant and postpartum mothers residing in Gedeo Zone during study period. Those house hold found in selected kebeles were used as sampling unit. The study populations were all sampled pregnant and postpartum mothers who live in Gedeo Zone during study period. Sample size was calculated by considering the following assumptions Level of significance (0.05), Power (0.50), Proportion of Knowledge of newborn danger signs on Mother's response was 29.3% according to a study result in SNNPR which result in sample size of 318.Considering design effect of 2 and adding 10 % for non-response rate, the final sample size was 700. The sampling procedure was involving a multistage stratified cluster sampling technique. Initially, the Zone was stratified in to rural and urban. From six rural woredas, three woredas were selected by simple random sampling technique. Then from three woredas six kebeles are selected by simple random sampling technique to include in the study (i.e. two kebeles from each woredas) From two urban town Dilla & yirgachief, two kebeles from each town was selected by simple random sampling method to include in the study. The censuses were carried out to identify pregnant and postpartum mother in the kebeles in order to generate a sampling frame. After proportional allocation of eligible pregnant and postpartum mother in each kebele, study units were identified with systematic sampling technique. The first household was selected by lottery method; then we used systematic sampling technique to identify the list of households in each kebele to be included to the study.

The quality of data was ensured through proper training of data collectors and supervisor to familiarize the instrument and the objective of the study. Close supervision of data collectors was done in the field. The quality of data is also ensured through retranslating Amharic language version questionnaire into original English version in order to keep its consistency. Pre-test was conducted on 5% the sample size to determine the acceptability of the question to be asked and the methods used, reaction and willingness of the respondents, time required, performance and adequacy of data collectors and either to modify or change ambiguous and unclear ideas. To assure the reliability of the instrument items with cronbach's alpha 0.7 or more was included in the analysis. Data wase entered and cleaned by using EpI INFO vision 3.5.1. After cleaned by the Epi-INFO it is transport to SPSS V-20 for analysis. Different variables were presented as mean or median and Categorical/discrete variables were described as percentages. Binary logistic regression was used for bivariate analysis and multiple logistic regressions model was used in order to identify Knowledge of Mother on Danger Signs of Neonatal and Postnatal illness and health seeking behaviour. Data from the in-depth interview and focus group discussion was translated and transcribed to English and categorized accordingly to main thematic areas manually. Finally the findings was triangulating with the quantitative findings with related to the study questions.

RESULTS

A total of 700 respondents were included in the study and giving 100% response rate. The mean ages of the respondent was 25.8 (SD± 8) with a range age of 17 -40. Marital Status of the respondent showed that 15(2.1%) were single followed by 655 (93.6%) married & 12 (1.7%) were Widowed. The majority of the respondents were Gedeo by ethnicity 212(30.3%), followed by 81(15.3%) Amahara. Most of the participants 304(43.4%) were completed Primary education followed by Secondary education 149(21.3%) and 67(9.6%) have Diploma holders and above. Regarding religion protestant was the dominant religion 115 (37.1%) followed by Orthodox 115 (37.1%) and Muslim 24 (7.7%). Most of the respondents were House wife 347(49.6%) followed by Private Employ 172(24.6%) and government employ 89(12.7%). Majority respondent came from urban areas which accounted 517(73.9%) where as the rest 183(26.1%) came from rural areas. Most of respondents found in less income level.

Most of the study participant 434 (62.7%) have 1-2 number of pregnancy and child number of 1-2 which account 470 (68.7%) around 95(13%) had history of abortion where as 125(17.8%) had history of still birth. Most 635(90.7%) the respondent had history of ANC follow up out of that 360(56.7%) of the pregnant women had More than or equal to three times ANC follow up. Health problem during Pregnancy was occurred in 145(20.7%) of the participant. only 114 (16.2%) of the study respondent had got treatment from modern health care for the health problem that they faced during their pregnancy period (Table 1). From all study participant only 227 (32.4%) of the study participant had knowledge of at least one of any of the newborn danger signs. Of these 43(19.3%), 183(76.6%), 115(48.1%) said Convulsion, fever, no breast feeding respectively. The remaining said Breathing problem 47(19.7%), Cold 34(14.2%), Loss of weight 34(14.2%), Stillbirth 5(2.1%), Umbilical cord problem 13(5.4%), Eye problem 40(16.7%). Bivariate analysis showed that significant associations between treatment seeking behaviour of mother's from health centre to new born with residence, educational status of mother & husband, income, family size, perception score towards new born health problem, ethnicity, affordability & accessibility and place of delivery however, other variables such as occupation, number of pregnancy, number of abortion and ANC follow up did not show significant relation with treatment seeking behaviour of mother's from health centre (Table 3). The result of the multivariate analysis showed that, Residences, educational status of the respondent, delivery and family size were predictors of treatment seeking behavior of mother's from health centre to new born.

Table 1. Reproductive history of pregnant Women in Gedeo Zone, South Ethiopia. 2015(N=700)

S. No	Variables	Frequency	Percent
1	Number of pregnancy		
	1-2	434	62.7%
	3-4	185	26.7%
	5-7	61	8.8%
	>8	12	1.7%
2	Number of children		
	1-2	470	68.7%
	3-5	191	27.9%
	6-8	23	3.4%
3	Number of abortion		
	1	95	92.2
	2	8	7.8%
4	Number of still birth		
	1	89	71.2%
	2	24	19.2%
	3	12	9.6%
5	ANC follow Up		
	Yes	635	90.7%
	No	65	9.3%
6	Number of ANC follow Up		
	Once	24	3.8%
	Twice	84	13.2%
	Three times	167	26.3%
	More than three times	360	56.7%
7	Health problem during Pregnancy		
	Yes	145	20.7%
	No	555	79.3%
8	Where do You go for treatment		
	No where	12	8.1%
	Government institution	63	42.6%
	Private employ	52	35.1%
	Tradition	18	12.2%
	Religious institute	3	2.0%
9	Place of delivery		
	Government employ	489	69.9%
	Private employ	83	11.9%
	Home	128	18.3%

Table 2. Respondent's Knowledge on newborn danger signs in Gedeo Zone, South Ethiopia, 2015(N=700)

S. No	Variables	Frequency	Percent
1	Knowledge on health problem of infant		
	Yes	227	32.4%
	No	473	67.6%
2	Convulsion		
	Yes	43	19.3%
	No	180	80.7%
3	Fever		
	Yes	183	76.6%
	No	54	22.6%
4	Stop breast feeding		
	Yes	115	48.1%
	No	124	51.9%
5	Breathing problem		
	Yes	47	19.7%
	No	192	80.3%
6	Cold		
	Yes	13	5.4%
	No	226	94.6%
7	Loss of weight		
	Yes	34	14.2%
	No	205	85.8%
8	Still birth		
	Yes	5	2.1%
	No	234	97.9%
9	Eye problem		
	Yes	40	16.7%
	No	199	83.3%
10	Unconsciousness		
	Yes	3	1.3%
	No	236	98.7%

Table 3. Bivariate analysis for Predictors of treatment seeking behaviour of mother from modern health care facilities

S. No	Variable	Treatment seeking behavior N=700, N (%)		AOR(CI)
		Have Rx seeking bhr.	Have No Rx Seeking bhr.	
1				
	Residence.			
	Urban	112(19.5)	71 (53.3)	1
	Rural	456(80.2)	62 (46.6)	.004(.000-.030)
2				
	Educational status of respondent.			
	Cannot read and write	30(57.6)	22(42.3)	1
	Can read and write	85(90.4	9(9.6)	4.753 (1.062-9.637)
	Primary Education	187(69.5)	82(30.4)	5.400 (1.217-13.590)
	Secondary Education	186(92.5	15(7.4)	6(2.059-17.439)
	Diploma and above	79(94)	5(6)	6(4.37-10.56)
3	Family size			
	1-2	67(74.4)	23(24.6)	1
	3-5	394(83.2)	79(15.8)	.568 (.126-2.547)
	5-7	66(77.6)	19(22.4)	.087 (.009-.803)
	more than7	40(64.5)	12(35.5)	2(1.345-4.53)
4	Place of delivery			
	Modern health Care	510(89.9)	62(46.6)	1
	Not Modern health Care	57(10.1)	71(53.9)	.162 (.053-.497)

DISCUSSION

Understanding health seeking behaviour, health promotion programs worldwide have long been premised on the idea that providing knowledge about causes of ill health and choices available will go a long way towards promoting a change in individual behaviour, towards more beneficial health seeking behaviour. However, there is growing recognition, in both the developed and developing countries, that providing education and knowledge at the individual level is not sufficient in itself to promote a change in behaviour. Health-seeking behaviour also includes consulting a physician during the prenatal (for mother's immunization against tetanus), natal (place of delivery and help at delivery) and postnatal (immunization of the child) period, especially when disease symptoms are apparent. The study showed that knowledge on symptoms of childhood diseases was very high. All respondents were aware of at least one symptom of childhood diseases. From mothers who respond for question about knowledge on health problem of new born most participants know fever as a sign of health problem followed by loss of weight. This study is similar with a study done in Tanzanian in which fever was the most frequent response of the study participants but unlike this study diarrhea was frequently mention from the study in Tanzania this difference may be occur because of low awareness of the respondent towards diarrhea in our study setting.

Education of mother and father and their work status have strong effect on child survival in developing countries. Educated women tend to provide better healthcare, hygiene and are more likely to seek help when a child is ill thus our finding support this facts is similar to the study done in Nigeria (Ajibade *et al*., 2013).

The study done in Nigeria shows that mothers' occupation had no significant relationship to modem health care facility just like our study this might be due to the fact that, usually child health problem is difficult to detect (Ajibade *et al*., 2013).

Conclusion

The final model of the higher analysis showed that Residences, educational status of the respondent, delivery and family size were predictors of treatment seeking behaviour of mother's from health centre to new born. thus those that live in rural area of the Gedeo Zone is less likely to seek care to their new born from health facilities as the mother deliver at health facilities the information given to the mother was mandatory.

Recommendation

Minster of health Need to build the capacity of front line health professionals in diagnosing, prevention and management of new born health problem. Health care providers/NGO Need to create awareness of the community about the importance of creating awareness of community about the danger sign of new born and the importance of seeking care from health centre. Intensive training is vital on new born danger sign to all concerned health professionals' starting from Zonal health office up to kebele's level health post. Health Centre and health post should increase health professionals' acceptance on institutional deliveries through minimizing the acceptance of traditional birth attendant within the community. Conference of pregnant women which was held's every month at kebele level should be strengthen. Participation of health professionals' such as midwifes on mother conference is important to increase knowledge attitude and practice of communities. Health extension workers should design IEC/BCC activities on Child health with special focus on MCH. Appling government structure including one to five team can increase knowledge of the study participants.

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