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*Full Length Research Paper*

## Health Care Seeking Behaviour on Neonatal Danger Signs among Mothers in Tenta District, Northeast Ethiopia: Community based cross-sectional study.

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Health care seeking behaviour is any action undertaken by individuals who perceive to have a health problem or to be ill for finding an appropriate remedy. It involves recognition of symptoms, perceived nature of illness, followed initially by appropriate home care and monitoring. In Ethiopia, little is known about mother's health care seeking behaviour on neonatal danger signs. Therefore, this study assessed the health care seeking behaviour on neonatal danger signs among mothers in Tenta district, Northeast Ethiopia. Community based cross-sectional study was conducted from October 23 to November 17, 2015. The study district was stratified into urban and rural kebeles. From each stratum, 1 out of 3 urban and 7 out of 25 rural kebeles were selected by simple random sampling technique. A total of 527 mothers were interviewed using structured and pre-tested questionnaire. The data were checked for missing values and outliers, and analysed using SPSS version 20.0. Logistic regression analyses were employed to see the association between dependent and independent variables. Mothers who sought medical care for neonatal danger signs were 167 (41.3%). Mothers' secondary educational level (AOR=4.64, 95% CI=1.1-19.81), have given birth in health center (AOR=3.35, 95% CI=1.31-8.56), practicing optimal thermal care (AOR=2.52, 95% CI=1.08-5.85), and having higher decision-making abilities in seeking neonatal health care (AOR=11.28, 95% CI=4.36-29.22) were significant predictors of mother's health seeking behaviour towards neonatal danger signs. Long distance of the residence from health facility, experiencing less serious neonatal danger signs, and beliefs that some danger signs were caused by evil spirits were the most common reasons cited by mothers who did not seek neonatal medical care. In this study, more than half of mother's did not seek medical care for neonatal danger signs. Maternal education and improving their decision-making abilities, and promoting institutional delivery are the recommended interventions to improve mother's health care seeking for neonatal illness. Health facilities should integrate essential neonatal care service during ANC and PNC follow up to improve the quality of health information about neonatal danger signs. At the community level, health extension workers should educate mothers about newborn care practices and neonatal danger signs.

**Key words:** Mothers' health care seeking behaviour, neonatal danger signs, Tenta district.

## INTRODUCTION

Worldwide, in 2012, 2.9 million babies died within 28 days of life. About two-thirds of neonatal deaths occur in the African and southeast-Asian regions (Save the Children, 2014). Sub-Saharan Africa generally has higher rates of neonatal mortality (Mrisho et al., 2012). Ethiopia has made notable progress in decreasing infant mortality ratio from 97 deaths per 1,000 live births to 59 deaths per 1,000 live births in 2011, and to 48 deaths per 1,000 live births in 2016 (EDHS, 2016).

The largest proportion of neonatal deaths occur at home, where a few families sought medical care for signs of new-born illness and nearly no neonates were taken to health facilities when they were sick. Delayed health care seeking can contribute neonatal mortality (Herbert et al., 2012). Understanding the care-seeking behaviour minimize potential delays and effectively improve new-borns health (Mrisho et al., 2012).

Health care seeking behaviour is any action undertaken by individuals who perceive to have a health problem or to be ill for finding an appropriate remedy. It involves recognition of symptoms, perceived nature of illness, followed initially by appropriate home care and monitoring. Health care seeking behaviour is not only a matter of knowledge about the cause and treatment of the disease, but also of perceived seriousness and duration, cultural practices and socio-economic status (Anyanwu and Okeke, 2014).

Millions of mothers and their new-borns throughout the world are living in a social environment that does not encourage health care seeking behaviour (Herbert et al., 2012). Thus, many mothers did not generally seek formal healthcare during pregnancy, childbirth and puerperium, which have a major impacts on health care seeking for mothers and survival of their new-borns (Gelaw et al., 2014).

Many new-borns are often dying due to delay in recognizing danger signs, delay in deciding to get medical care and delay in reaching a health worker or facility (Awasthi et al., 2009). Behaviourally, modifiable factors such as poor recognition of neonatal danger signs, local illness beliefs, use of traditional/home remedies, and inability of mothers to identify health providers delayed the health care-seeking behaviour of mothers for their new-borns (Beck et al., 2004). Delayed health care seeking behaviour for ill neonates contribute to high infant mortality rates (Sandberg et al., 2014; Syed et al., 2006). The vast majority of neonates (73%) died at home due to mothers who did not seek care during the neonatal period (Dongre et al., 2009). Early detection of neonatal illness and increasing facility births improve

care-seeking behaviour for neonatal illness (Marsh et al., 2002; Dongre et al., 2009).

Different studies showed that prompt health care seeking behaviour for neonatal danger signs serve as backbone in reducing neonatal mortality (Sandberg et al., 2014; Chandwani and Pandor, 2015). However, a variety of cultural barriers, norms of poor hygiene and isolation impeded neonatal health care seeking behaviour of mothers (Mrisho et al., 2012). Herbert et al. (2012) reported that 47.5 percent of neonates who were ill or suspected to be ill were taken to health facility.

In Peri-Urban of Wardha, India, about 37.5% of newborn with danger signs were taken to the doctor and only two mothers consulted faith healer for treatment (Dongre et al., 2009). Another study conducted in Rural Wardha, India, only 41.8% of such sick newborn got treatment from either government or private hospitals and 46.1% of sick babies received no treatment. The reasons for not seeking neonatal danger signs were ignorance of parents, lack of money, faith in supernatural causes, non-availability of transport, home remedy, and absence of responsible person at home (Dongre et al., 2009). In Gujarat, India, joint family structure, mass media exposure, literacy status, and socioeconomic status of mothers were found to be associated significantly with the health care seeking behaviour of the mothers (Chandwani and Pandor, 2015).

In Yemen, 51.42% of caregivers sought medical care for their sick babies. Mothers who attended secondary education were 5.8 times more likely to seek neonatal medical care for their sick neonate (Webair and Bin-Gouth, 2013). Knowledge of at least one WHO recognized danger sign were found to be significant factors for health care seeking behaviour for neonatal illness in Enugu State, Southeast Nigeria (Ekwochi et al., 2015). Yenagoa Metropolis reported that self-medication and the use of home remedies delayed health care seeking behaviour for neonatal illness. The commonest reason for not timely consultation was lack of money (Alex-Hart et al., 2014). In rural Southern Tanzania, mothers who delivered at health facilities were more likely to seek neonatal care than those who delivered at home (Mwifadhi Mrisho et al., 2012). In rural western Kenya, 32.4% of the mothers purchased and administered drugs to their sick children without seeking medical attention. The most commonly reported reasons for this behaviour were: distance of government health facilities, poor and inability to afford services at the private hospitals and clinics (Mbagaya et al., 2005).

In study conducted in Bure district, Ethiopia, marital status, completion of health extension package, and sex of child were significantly associated with health care

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seeking behaviour of urban mothers. Similarly, age of child, occupation of mothers, educational level of fathers, wealth quintile, and type of reported illness were significantly associated with rural mothers. For health care seeking behaviour (Gelaw et al., 2014). In Bihar Dar, Ethiopia (Ababa, 2008) mother's decision-making level had significant effect on health seeking behaviours for child health services. Another study in Jabitenan district, Ethiopia, mothers who delivered at health facilities were more likely to seek neonatal care than those who delivered at home (Workineh and Hailu, 2014).

Generally, early determination of health care seeking behaviours of mothers on neonatal danger signs could save the new-borns during life threatening complications. Therefore, understanding the factors related to health care seeking behaviour for neonatal danger signs are critical for countries like Ethiopia with alarmingly high neonatal mortality. Despite the fact that health-seeking behaviour plays a critical role in reducing neonatal morbidity and mortality, studies on the area are limited and inconsistent. Therefore, this study assessed the health care seeking behaviour on neonatal danger signs and identified associated factors among mothers in Tenta district, Northeast Ethiopia.

## MATERIALS AND METHODS

### Study area and period

The study was carried out in Tenta district, Northeast Ethiopia, from October 23 to November 17, 2015. Tenta district is located 608 km away from East of Bihar Dar and 528 km from North of Addis Ababa. This district has three urban and 25 rural kebeles (the *smallest administrative units*). Based on Tenta district health office report, there are nine health centres, 28 health post, three private lower clinics and two private drug stores. There were 3179 mothers who had infant age 28 to 364 days during study period ((unpublished Tenta District health office report, 2015).

### Study design and population

A community-based cross sectional study design was employed. All mothers who had infant age of 28 to 364 days in the district were included in the study. Mentally and physically incapable women's to provide response during data collection period were excluded.

### Operational definitions

#### Health care seeking behaviour

Seeking medical or non-medical care in response to neonatal danger signs to reduce severity and complication after recognizing the danger signs and perceived nature of illness. It was measured by calculating all individual answers to health care seeking questions and then categorized as having health care seeking behaviour (if participants initiate home care and necessitate seeking care at the health facility) or not having health care seeking behaviour (if participants do not initiate home care and care at the

health facility).

#### Have newborn care practices

These are activities taken by the mothers to protect against newborn danger signs and perceived nature of illness. It is measured if participants practiced safe cord care, optimal thermal care and neonatal breast-feeding.

#### Have optimal thermal care practice

Mothers who bathed their new-born after 24 h of birth. It is measured if participants bathed their new-born after 24 h of birth.

#### Have decision-making ability

This is the way an individual put decision by him/herself or with somebody else. It is measured by calculating all individual answers of decision-making ability questions; and then categorize as having decision-making ability (if participants make decision by herself and with her husband to get medical care and to select treatment place for their ill infant) or not having decision-making ability (if participants do not make decision by herself and with her husband to get medical care and to select treatment place for their ill infant).

#### Sample size determination

The sample size was determined using single population proportion formula.

$$n = (Z\alpha/2)^2 p (1-p) / W^2$$

with considering the following assumptions where P=proportion of mothers who sought medical care for their newborn illness as 47.7% ( $p=0.477$ ) (Ekwochi et al., 2015), W=margin error of 5%, design effect=1.5. Z  $\alpha/2$ =critical value for normal distribution at 95% confidence level. With these assumptions, the formula yields 383. Since the number of mothers who had an infant age of 28 to 364 day in Tenta district were 3179 (which was less than 10,000), correction formula was used as follows:

$$cf = \frac{n}{1 + \frac{n}{N}} = \frac{383}{1 + \frac{383}{3179}} = 341.9 \sim 342$$

By adding 10% of non-response rate and design effect of 1.5, the total sample size was 564.

#### Sampling procedures

The study district was stratified into urban and rural kebeles. From each stratum, 1 out of 3 urban and 7 out of 25 rural kebeles were selected by simple random sampling technique. Family folder was used as sampling frame. These folders contained personal records of individual mothers: address, date of delivery, place of delivery, name of kebele, development group leader, and their house number. The calculated sample size was proportionally allocated to (one urban and seven rural) kebeles. The study participants were selected from the sampling frame through computer-generated



method. Data collectors used name of kebeles, their house numbers, and health extension workers for guidance.

### Data collection

Structured interviewer administered questionnaire was designed by researchers after reviewing literatures which had previously been done on this topic (Webair and Bin-Gouth, 2013; Mbagaya et al., 2005). The questionnaire was prepared in English language and then translated to Amharic (local language) and re-translated back to English to check for any inconsistencies.

The questionnaire was pre-tested on 5% of the sample in Mekidella district, which had similar socio-demographic characteristics with Tenta district and modification was done. Training was given for data collectors before the pre-test and the beginning of the actual interviews. The investigator checked data completeness. Double entry of data was carried out to prevent data entry errors.

### Data processing and analysis

Data were entered in Epi-data version 3.1 and exported to SPSS version 20.0. The completeness and consistency of the data were checked and cleaned. Descriptive analysis was made and measures of central tendency were also determined. Logistic regression was applied to see the association between dependent and independent variables. Independent variables, which had association in bi-variable analysis with p-value <0.25 were included in multiple logistic regression model to handle potential confounding variables. Independent variables with p-value <0.05 in multiple logistic regression model were considered as significant predictors of health seeking behaviour of neonatal danger sign. The results were presented as odds ratios (OR) with 95% confidence intervals (CI).

### Ethical consideration

Ethical approval was obtained from ethical review committee of Jimma University. Letter of permission was obtained from Tenta district administrative and health office. Informed verbal consent was also obtained from the study participants. To assure complete confidentiality, other identifying information including name were not recorded on the questionnaires.

## RESULTS AND DISCUSSION

### Socio demographic characteristics

A total of 527 mothers were interviewed which made the response rate of 93.4%. The mean age of respondents were 30.85 ( $\pm$  6.16 SD). About fifteen percent of respondents were urban and 84.4% were rural residents. Nearly two-third (59.1%) of mothers were Christians and 40.9% were Muslims. Larger proportions (82.9%) of respondents were married and 68.9% were farmers. Regarding educational levels, majority of respondents were illiterate (47.8%), while 5.1% of mothers had completed the grade. Concerning the number of children in the family, majority (87.5%) of mothers had less than

five children in their houses (Table 1).

### Mother's newborn care practice

From the total study participants, 67.7% of mothers did not apply any substance on their infant's umbilical cord. Of those mothers who applied substances to the infant's cord, nearly half (48.2%) of mothers applied animal muck. Sixty-five percent of mothers gave only breast milk and 68.5% of mothers initiated/started breast-feeding within the first hours. Two hundred two (38.3%) of mothers bathed their new-born before 24 h of birth, and 38.3% of mothers practiced optimal thermal care (Table 2).

### Mother's experience on neonatal danger signs and their health seeking behavior

Four hundred four (76.7%) of mothers noticed one or more of their newborn danger signs. The most common neonatal danger signs recognized by mothers were unable to feed/poor sucking (43.5%) and fever (39.8%). Among 404 mothers who recognized neonatal danger signs, 41.3% of them sought medical care, while 55.2% of mothers sought non-medical care for neonatal danger signs. Among two hundred twenty-three mothers who sought non-medical care, 37.7% of them gave home remedies and 30.1% of mothers sought spiritual care. Long distance of the health facility (51.7%), perceived seriousness of neonatal danger signs (42.6%), and beliefs that some danger signs have been caused by evil spirits (34.8%) were the most common reasons cited by mothers who did not seek medical care (Table 3).

### Factors associated with health seeking behavior on neonatal danger signs

Multivariable logistic regression model showed that four independent predictors of mother's health seeking behaviour towards neonatal danger signs. Mothers who completed their secondary education were 4.64 times more likely to seek medical care for their neonates compared to those who were illiterate (AOR=4.64; 95% CI=1.1, 19.81). Institutional delivery was found to be significantly associated with mother's health seeking behaviour towards neonatal danger signs. Mothers who delivered a child in health center were 3.35 times more likely to seek neonatal medical care compared to mothers who delivered at home (AOR=3.35, 95% CI=1.31-8.56). Likewise, mother's optimal thermal practice was another significant factor for health seeking behaviour. Mothers who practiced optimal thermal care were 2.52 times more likely to seek neonatal health care than mothers who did not practice optimal thermal care (AOR=2.52, 95%

**Table 1.** Sociodemographic characteristic of mothers in Tenta district, Northeast Ethiopia, 2015.

Variable	Categories	N	%
Age in year (n=527)	≤24	79	14.9
	25-30	154	29.2
	31-35	172	32.7
	≥36	122	23.2
Residence (n=527)	Urban	82	15.6
	Rural	445	84.4
Wealth quintiles (n=527)	Poorest	105	19.9
	Poor	106	20.1
	Middle	106	20.1
	Rich	106	20.1
	Richest	104	19.8
Number of children in the family (n=527)	<5	461	87.5
	≥5	66	12.5
Marital status (n=527)	Currently married	437	82.9
	Not currently married	90	17.1
Religion of respondent (n=527)	Christian	312	59.1
	Muslim	215	40.9
Educational status of respondent (n=527)	Illiterate	252	47.8
	Primary(1-8 grade)	168	31.9
	Secondary (9-12 grade)	80	15.2
	≥12	27	5.1
Husbands' educational status (n=527)	Illiterate	176	33.4
	Primary(1-8 grade)	224	42.5
	Secondary (9-12 grade)	81	15.4
	≥12	46	8.7
Occupation of the respondents (n=527)	Government employee	33	6.3
	Self-employee	94	17.8
	Farmer	363	68.9
	Daily Labour	37	7.0
Occupation of respondents husband (n=527)	Government employee	57	10.8
	Self-employee	100	19.0
	Farmer	370	70.2

CI=1.1, 5.85). In addition, mothers who had higher decision making abilities in seeking neonatal health care were 11.28 times more likely to seek medical care compared to mothers who had lower decision making ability (AOR=11.28, 95% CI=4.36, 29.22) (Table 4).

## DISCUSSION

Seeking health care for neonatal danger signs have a

great potential in reducing neonatal mortality (Workineh and Hailu, 2014). This study showed that, out of 404 mothers who experienced neonatal danger signs, about 41.3% of mothers sought medical care for their newborn danger signs. This finding was in agreement with study done in Dera district, Oromia (43.2%) (Assefa et al., 2012) and Enugu state, Nigeria (47.7%) (Ekwochi et al., 2015), but higher than study done in urban slum of India (18.1%) (Gupta et al., 2012) and Edo state, Nigeria (35.9%) (Aigbokhaode et al., 2015), and lower than

**Table 2.** New-born care practices of mothers in Tenta district, Northeast Ethiopia, 2015.

Variable	Categories	N	%
Applied substance to infant cord (n=527)	Yes	170	32.3
	No	357	67.7
Type of substance applied (n=170)	Oil or Shea butter	29	17.1
	Animal muck	82	48.2
	Shea butter with powder	36	21.2
	Ointment/body lotion	23	13.5
Pre-lacteal food given (n=527)	Yes	184	34.9
	No	343	65.1
Type of pre-lacteal food given (n=184)	Water or tea	78	42.4
	Spiritual water	5	2.7
	Butter/herbal concoction food	101	54.9
Initiated breast-feeding within 1 h (n=527)	Yes	361	68.5
	No	166	31.5
Feed colostrum (n=527)	Yes	445	84.4
	No	82	15.6
Bathed new born after 24 h (527)	Yes	202	38.3
	No	325	61.7
Practiced optimal thermal care (527)	Yes	206	39.1
	No	321	60.9

than studies in Bihar Dar (72.7%) (Awoke, 2013), Yemen (51.4%) (Webair and Bin-Gouth, 2013), peri-urban of India (92%) (Dongre et al., 2009), and Pakistan (81.1%) (Durrani et al., 2015). These discrepancies might be due to the difference in social environment that does not encourage health care seeking behaviour towards neonatal danger signs, differences in accessibility of health facilities. Educational levels also influence mother's health care seeking behaviour towards neonatal danger signs and health service utilization.

Educational status of parents and their work status had strong associations with child survival in developing countries (Ekwochi et al., 2015; Workineh and Hailu, 2014). In Yemen, mothers who attended secondary education were 5.8 times more likely to seek neonatal medical care for their sick neonate (Webair and Bin-Gouth, 2013). Similarly, in this study, mothers who attended secondary education were 4.6 times more likely to seek medical care for their sick neonate compared to illiterate mothers. The possible implications could be that formal education increases mother's knowledge about biological aspects of human beings, and health seeking habits. In addition, educated mothers are more likely to understand health education messages and seek neonatal medical care than illiterate ones.

In Rural Southern Tanzania (Mrisho et al., 2012), and Jabitenan district (Workineh and Hailu, 2014) revealed that mothers who delivered at health facilities were more likely to seek neonatal care than those who delivered at home. In this study, mothers who delivered in health facilities were 3.3 times more likely to seek neonatal medical care compared to those mothers who delivered at home. Thus, this finding further strengthens the argument that increasing institutional birth improves mother's health care seeking behaviour towards neonatal illnesses.

A study in Bihar Dar (Awoke, 2013) and Jabitanan district (Workineh and Hailu, 2014) showed that mother's decision-making level had significant effect on health seeking behaviour for child health services. Similarly, this study revealed that mothers who had higher decision-making levels were 11.28 times more likely to seek neonatal medical care compared with those mothers who had lower decision-making. The possible explanation could be that autonomous mothers have attended child health related conferences without any interference. It is also evident that autonomous mothers practiced behavioural change communications to increase medical care seeking for sick newborn, and needs scaling up with rising institutional deliveries.

**Table 3.** Mothers' health care seeking behaviour and experience of neonatal danger signs in Tenta District, Northeast Ethiopia, 2015.

Variable	Categories	N	%
Mothers who experienced neonatal danger signs (n=527)	Yes	404	76.7
	No	123	23.3
Type of experienced neonatal danger signs (n=404)	Unable to feed/ poor sucking	176	43.5
	Fever/ hot to touch	161	39.8
	Chest in drawing	103	25.5
	Cold to touch	97	24.0
	Umbilicus Infection	86	21.2
	Lethargic or unconscious	85	20.9
	Fast breathing	61	15.1
	Yellow sole	49	12.1
	Convulsion	33	8.2
	Others	11	2.7
Health seeking behaviour of mothers for neonatal danger signs (n=404)	Sought medical care	167	41.3
	Sought non-medical care	223	55.2
	Did not take action	14	3.5
Mothers who sought non-medical care (n=223)	Sought drug seller	19	8.5
	Sought traditional care	53	23.7
	Gave home remedies	84	37.7
	Sought spiritual care	67	30.1
Reasons for not seeking medical care (n=230)	Illness was not serious	98	42.6
	had no enough money	32	13.9
	Long distance to go health facility	119	51.7
	Occupied by different work	43	18.7
	Health workers are hostile	32	13.9
	Treatment expensive	8	3.1
	Herbs are more effective	73	31.7
Decision making levels of mothers in seeking neonatal health care (n=527)	Higher	334	63.4
	Lower	193	36.6

Mothers who practiced optimal thermal care were 2.52 times more likely to seek neonatal medical care compared to those mothers who were not practicing optimal thermal care. Mothers who practiced optimal thermal care could have better access to child health services, which influence mother's decisions in seeking health care towards neonatal danger signs.

## Conclusion

Our study suggested that mothers' health seeking behaviour for neonatal medical care was low (41.3%) in the study area. This study also revealed that factors significantly associated with health-seeking behaviour of mothers towards neonatal danger sign including; educational status of mothers, health center delivery,

optimal thermal care practice and mother's decision-making ability to seek neonatal health care.

As a recommendation, improving maternal education and their decision-making abilities, and promoting institutional delivery are the recommended interventions to improve mother's health care seeking for neonatal illness. Health facilities should integrate essential newborn care service during ANC and PNC follow up to improve the quality of health information about newborn danger signs. In addition, at the community level, health extension workers should educate mothers about newborn care practices and neonatal danger signs.

## CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

**Table 4.** Multivariate analysis of health care seeking behaviour of mothers on neonatal danger signs in Tenta district, Northeast, Ethiopia, 2015.

Variable	Health seeking behaviour		Crude odds ratio (COR) (95% CI)	Adjusted odd ratio (AOR) (95%CI)
	Sought medical care (%)	Sought non-medical care (%)		
<b>Mothers educational status</b>				
Illiterate	54 (25.8)	155 (74.2)	1	1
Primary(1-8 <sup>th</sup> )	63 (51.2)	60 (48.8)	3.01 (1.88-4.82)**	1.43 (0.59-3.43)
Secondary(9-12th)	43 (79.6)	11 (20.4)	11.22 (5.4-23.31)**	4.64 (1.1-19.81)*
≥12	15 (78.9)	4 (21.1)	10.74 (3.42-33.84)**	0.52 (0.11-2.40)
<b>Place of delivery of last child</b>				
Home	57 (24.5)	176 (75.5)	1	1
Health post	8 (44.4)	10 (55.6)	2.47 (0.93-6.56)	1.82 (0.38-8.77)
Health center	93 (73.8)	33 (26.2)	8.7 (5.29-14.30)**	3.35 (1.31-8.56)*
Hospital	17 (60.7)	11 (39.3)	4.77 (2.11-10.78)**	1.69 (0.36-7.92)
<b>Optimal thermal care</b>				
Yes	98 (67.1)	48 (32.9)	4.83 (3.12-7.47)**	2.52 (1.08-5.85)*
No	77 (29.7)	182 (70.3)	1	1
<b>Decision making ability to seek neonatal health care</b>				
Higher	155 (63.3)	90 (36.7)	12.06 (7.06-20.59)**	11.28 (4.36-29.21)**
Lower	20 (12.5)	140 (87.5)	1	1

1: Reference category; \*P-Value <.05, \*\*P-Value ≤.001.

## ABBREVIATIONS

**ANC**, Antenatal care; **AOR**, adjusted odds ratio; **COR**, crude odds ratios; **OR**, odds ratios; **CI**, confidence interval; **HC**, health center; **SD**, standard deviation; **NMR**, neonatal mortality rate; **PNC**, post natal care; **WHO**, World Health Organization.

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*Full Length Research Paper*

## Cultural competency of Saudi Student nurses as rated by Filipino clinical instructors at the University of Ha'il, Kingdom of Saudi Arabia

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Acquiring cultural competence is an ongoing process in which healthcare professionals strive continuously to achieve the ability to work effectively within the context of their client's culture. This study investigated clinical cultural competence of Saudi student nurses' behaviors at the University of Hail, Kingdom of Saudi Arabia. The Cultural Competence Clinical Evaluation Tool- Teacher Version was used to measure the different dimensions of Saudi student nurses' clinical cultural competence behaviors as rated by their clinical instructors. The student nurses level of clinical cultural competence behavior was rated as "average". The score of the Affective domain scored the highest mean, followed by the practical domain, with the cognitive domain being the lowest. There were significant differences in the clinical cultural competence behavior levels of the student nurses. These student nurses' average cultural competency, reflected their own cultural competence, because they viewed their instructors as role models, enabling the acquisition of learning via knowledge transfer; Clinical Instructors teach the student nurses in circumstances as similar as possible to those in which nursing laboratory simulation to actual hospital setting will be employed.

**Key words:** Cultural competence, clinical instructors, student nurses, cultural assessment.

### INTRODUCTION

The process of acquiring cultural competence is imperative for nurses, faculty and student nurses learning their profession (Montenery et al., 2013). Nurses spend more time in caring for their patients than any other healthcare professional. They have a unique opportunity

to influence access to care, quality of care and patient outcomes, and their knowledge on the patients' culture, belief, and healthcare practices greatly influence their practice (Vicencio et al., 2015). Faculty and student nurses care for their patients in the same way. As the

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faculty members mentor the students in their quest for knowledge, they spend most of their time at the bedside. This process requires cultural competence. According to Campinha-Bacote (2002), this is an ongoing process in which healthcare professionals continuously strive to achieve the ability to work effectively within the context of the client's culture. Culture is a factor that can make a difference in promoting wellness, preventing illness, restoring health, facilitating coping and enhancing the quality of life for all individuals, families and communities (Jeffreys, 2015). Cultural competence, when applied to educators, is the ability to successfully teach students who from cultures other than their own successfully, to develop certain personal and interpersonal awareness and sensitivities along with certain bodies of cultural knowledge, and involves mastering a set of skills. Taken together, these skills generate effective cross-cultural teaching. In addition, Jeffreys (2015) stated that nursing educators are empowered to make an immense difference by introducing, nurturing and modeling optimal cultural competence. On the other hand, Montenero et al. (2013) emphasized that nursing educators should work with the intention of empowering students to provide holistic and comprehensive care, with the concept that cultural competence is essential in the delivery of comprehensive patient-centered care. Cultural competence as earlier defined by Jeffreys (2015) is an ongoing, multidimensional learning process that integrates transcultural nursing skills in all three learning domains- cognitive, practical, and affective- involving transcultural self-efficacy (confidence) as a major influencing factor, and that aims to achieve culturally congruent care.

Both nursing educators and their students must demonstrate an understanding that people of diverse cultures and belief systems perceive health and illness according to their own view and respond differently to various symptoms, diseases and treatments. In addition, Douglas et al. (2014) elucidated that an individual's knowledge of the impact of culture on attitudes, values, traditions, and behaviors affects their health-seeking behaviors.

The Kingdom of Saudi Arabia (KSA), one of the Muslim countries in the Middle East, has its own unique culture, beliefs and health practices. For the Saudi family, considerable cultural clashes can arise when patients are hospitalized and receive care from health-care professionals who do not understand Saudi cultural beliefs and values. In addition, the Arab News network ([www.arabnews.com](http://www.arabnews.com); February 4, 2016) reported data from the Saudi Department of Statistics and Information that the population of the KSA comprises 21.1 million native Saudis and 10.4 million expatriates: nearly 33% of the total population. Of these, 75% are Indian, Pakistani, Egyptian, Bangladeshi and Filipino while the remaining 25% are Sri Lankan, Yemeni, Jordanian/Palestinian, Indonesian, Sudanese, Syrian, Turkish, and Westerners.

These data clearly show that the country has a very diverse population, which means that professional nurses, as well as clinical instructors and nursing students, are challenged with a wide variety of cultural, linguistic and health literacy barriers (Singleton and Krause 2009). Hence, cultural beliefs and practices concerning the health and illness in the Kingdom of Saudi Arabia can only be addressed by healthcare providers through advanced knowledge of the Saudi population culture (Johnson et al., 2017). According to Campinha-Bacote (2002), cultural awareness is the self-examination and in-depth exploration of one's own cultural and professional background. In this context, nursing educators and clinical instructors must be aware of their own biases, prejudices, and assumptions about individuals who are different from them culturally, so that they will not enforce their own cultural beliefs and patterns of behavior on the nursing students whom they supervise and teach. Bednarz et al. (2010) stressed that nursing educators serve as role models for their students through their own efforts to expand the scope and depth of cultural competence, and in demonstrating the ongoing quest for excellence that needs to be a part of professional nursing practice.

The Saudi nursing curriculum covers a five-year period (10 semesters) for a bachelor's degree, which is allocated to classes, laboratory work and clinical practice. Clinical practice is conducted on two to three days per week throughout the semester, wherein students are rotated to the different specialties of clinical practice (Mutair, 2015). Nursing students' clinical practice is supervised by an officially designated clinical instructor, who has a dual role in the accomplishment of their role, which includes patient safety in the hands of the student learner, and facilitating students' learning. Nursing students practice their skills directly on the patient, and that is why clinical instructors must be equipped with the knowledge and clinical competence required of a professional nurse along with their postgraduate degree and work experience to enrich knowledge and expertise. They are clinical teachers who are skilled, experienced nurses dedicated to maintaining and improving standards of patient care, and are concerned to help learners develop their potential as nurses. This is achieved through building good relationships, counseling, supporting, and advising, aside from demonstrating expertise in caring for patients because the patient's life - or certainly his/her well-being - could be at risk (Mutair, 2015). This process does not consist merely of passing on information or knowledge, but is also mainly an expression of values and attitudes. What teachers usually get back from their students is what they themselves have brought to the teaching-learning process (Thanasoulas, 2002). Therefore, the quality of student learning is dependent not only on the type of clinical experience but also on the characteristics and skills of the teacher who facilitates learning (Mutair, 2015).



University-based clinical instructors must be able to demonstrate cultural competency while teaching the students directly and giving indirect care to patients from different cultures. Cultural competence, according to Loftin et al. (2013), involves having the necessary attitudes, knowledge, and skills for the delivery of culturally appropriate care to a diverse patient population. According to Riyadh Arab News ([www.alriyadh.com](http://www.alriyadh.com), dated June 13, 2014), there are 18,000 expatriate teachers in KSA universities, serving in various positions including professors, associate professors, assistant professors, lecturers and assistant lecturers. The University of Hail College of Nursing, located at Hail City, KSA, is one of those universities employing expatriate teachers. There are forty-five Filipino clinical instructors serving the college, both in the clinical and classroom settings. They were hired based on their relevant expertise.

The aim of this study was to determine the cultural competency of Saudi nursing students as rated by their clinical educators, who mentor and train them to become globally competitive, culturally aware professional nurses.

## MATERIALS AND METHODS

This is a descriptive/evaluative study aimed at determining differences between the levels of cultural competency of Saudi student nurses from the perceptions of their clinical instructors. The study was conducted at the College of Nursing, Hail University, Kingdom of Saudi Arabia. Thirty full-time clinical instructors participated in this study out of the total population of thirty-six (83%). A purposive sampling technique was used, and the respondents were chosen because of their specific culture, skills and experience. The clinical instructor genders were equally distributed (50% female and 50% male), with the most common age range being 40 to 44 years (30%). Of these, 23 (76%) mostly worked at the medical surgical department, 28 (93%) were lecturer/nurse specialists, 27 (90%) with a Master's degree. Eleven (37%) of them had 16 to 20 years of work experience in the academic field but most of them (27; 90%) had less than 1 to 5 years of experience in this healthcare institution. Nineteen (63%) of them had undertaken no formal education in transcultural nursing, and 22 (73%) of the respondents were not studying relevant education units. The research questionnaire was prepared based on the Cultural Competence Education Resource (CCER) toolkit authored by Jeffreys and Dogan (2012). The following research instruments were used based on the CCER:

1. A Demographic Profile Questionnaire was designed based on the Demographic Data Sheet for Nurses (DDSN), but with some adjustment for the University's work position category, existing unit or department, and educational and work-experience requirement for employment.
2. The Cultural Competence Clinical Evaluation Tool-Teacher Version (CCCET-TV) comprised of 83-item questionnaire adapted from the Transcultural Self-Efficacy Tool (TSET), an instrument consisting of 83 items subdivided into three sections of cognitive, practical, and affective domains. This contained three subscales measuring different dimensions of students' clinical cultural competence behaviors as rated by the teacher or their preceptor: extent of culturally specific care (Subscale 1, Cognitive Scale); cultural assessment (Subscale 2, Practical Scale); culturally sensitive and professionally appropriate attitudes, values, or beliefs

including awareness, acceptance, recognition, appreciation and advocacy necessary for providing culturally sensitive professional nursing care (Subscale 3, Affective Scale). These were evaluated utilizing a Likert-type scale, rating answers from 1 (low competence level) to 10 (high competence level). A low rating was assigned to scores of 1 or 2 on the Likert scale, an average level to scores of 3 to 8, and a high level of competence to responses with scores of 9 or 10. Specific answers to the following questions were drawn from the questionnaire:

1. How can the profiles of the Filipino Clinical Instructors be described in terms of the following factors? Age; gender; work setting; current work position, highest educational attainment, work experience in academic or health-care institutions; previous college courses in transcultural nursing; and continuing education units in transcultural nursing.
2. What is the level of Saudi student nurses' clinical cultural competence behavior in providing nursing care to patients from varied cultures? This evaluation included the extent of culturally specific care (cognitive scale), cultural assessment (practical scale), culturally sensitive and professionally appropriate attitudes, values, or beliefs in providing sensitive professional nursing care (affective scale) as rated by the clinical instructors.
3. Is there a significant difference among the level of Saudi student nurses' clinical cultural competence behavior in providing nursing care to patients from varied cultures? This was evaluated in terms of the extent of culturally specific care (cognitive scale); cultural assessment (practical scale), and culturally sensitive and professionally appropriate attitude, values, or beliefs in providing sensitive professional nursing care (affective scale) as rated by the clinical instructors when grouped by their own demographic profiles.

The study was approved by the Institutional Review Board (IRB) of the University of Hail. Thereafter, consent for participation was obtained from respondents after they were notified of the aims, methods, anticipated benefits and potential hazards of the research. They were informed that they had the right to terminate their participation at any time and that confidentiality would always be maintained in terms of their responses.

## Statistical analysis

The obtained data were analyzed using analysis of variance (ANOVA) for comparisons between the various groups in terms of specific questionnaire factors. This was used to determine any significant differences among the levels of Saudi student nurses' clinical cultural competence, behavior in performing nursing care to the patients from varied cultures in terms of: the extent of culturally specific care, cultural assessment, culturally sensitive and professionally appropriate attitudes, values, or beliefs in providing sensitive professional nursing care, as rated by the clinical instructors and when grouped by their own demographic profiles. Differences between means were considered as significant at  $P \leq 0.05$ .

## RESULTS

The mean score distributions for the level of Saudi student nurses' clinical cultural competence behavior in the extent of culturally specific care (Cognitive Scale), as rated by the Clinical Instructors are shown in Table 1. Among the 25 studied variables, safety had the highest mean score of 5.76, followed by relief of pain and discomfort with a total mean score of 5.66 and informed consent with a mean score of 5.31, while dealing with

**Table 1.** Mean score distribution of the level of Saudi student nurses' clinical cultural competence behavior in the extent of culturally specific care (cognitive scale), as rated by Filipino Clinical Instructors.

Rank	Mean	±SD	Cognitive scale
1	5.76	3.18	Safety
2	5.66	3.03	Pain relief and comfort
3	5.31	3.44	Informed consent
4	5.24	3.20	Health restoration
5	5.14	2.80	Health history and interview
6	5.14	3.17	Physical examination
7	5.14	3.51	Blood tests
8	5.14	3.18	Rest and sleep
9	5.00	3.00	Health maintenance
10	4.93	2.80	Patient teaching
11	4.79	2.87	Illness prevention
12	4.72	3.28	Diagnostic tests
13	4.62	2.74	Health promotion
14	4.55	3.04	Exercise and activity
15	4.48	3.11	Diet and nutrition
16	4.38	3.23	Life support and resuscitation
17	4.28	2.95	Hygiene
18	4.17	2.75	Anxiety and stress reduction
19	3.41	2.60	Grieving and loss
20	3.28	2.80	Aging
21	3.28	2.72	Dying and death
22	2.62	2.56	Pregnancy
23	2.59	2.50	Growth and development
24	2.31	2.55	Birth
25	1.72	1.33	Sexuality

sexuality had the lowest score of 1.72 along with birth at 2.35. On the other hand, the mean score distribution on the level of Saudi student nurses' clinical cultural competence behavior in the cultural assessment (Practical scale) as rated by Filipino Clinical Instructors is presented in Table 2. Socioeconomic background had the highest mean score of 6.59 followed by educational background and interest with a mean score of 4.66, and the third in rank is traditional health and illness beliefs with 4.66 mean score, while discrimination and bias experience had the lowest mean score of 3.41, acculturation with 3.48 and 3.52 for aging. While in Table 3, the mean score distribution on the level of Saudi student nurses' clinical cultural competence behavior in culturally sensitive and professionally appropriate attitude, values or belief (Affective scale) for providing culturally sensitive professional nursing care as rated by Filipino Clinical Instructor was shown. The results revealed that student nurses' clinical cultural competence behaviour in culturally sensitive and professionally appropriate attitude, values or belief (affective scale) falls on average level in all items mentioned at affective scale and were rated average on the level of competency scale

by their clinical instructors. They are aware, they accept, appreciate, and recognize the importance of one's cultural values, and beliefs in the provision of nursing care. Moreover, awareness of his/her own cultural heritage and belief systems top the rank with a mean score of 6.14, followed by more aware of insensitive and prejudicial treatment with 6.10 mean score and the third one is: more readily recognizes the impact of roles on health care practices with a mean score of 5.52, while the "more appreciative of: Cultural sensitivity and awareness" obtained the lowest mean of 4.45, "More appreciative of: Client's world view" (philosophy of life) has a mean score of 4.52, and the "more readily recognize: Importance of home remedies and folk medicine" is 4.55 mean score presents the average mean score of the three scales of cognitive, practical and affective competency levels. It shows that affective scales got the highest average score of 5.04, followed by the cognitive scale with 4.31 average score and the practical scale got the lowest average of 4.08, which falls on the average level of cultural competency (Table 4). Table 5 presents the inferential statistics (ANOVA) results on the level of Saudi student nurses' clinical cultural competence behavior rating when

**Table 2.** Mean score distribution of the level of Saudi student nurses' clinical cultural competence behavior in cultural assessment (practical scale) as rated by Filipino Clinical Instructors.

Rank	Mean	Score $\pm$ SD	Practical scale
1	6.59	3.75	Socioeconomic background
2	4.66	2.86	Educational background and interests
3	4.66	2.53	Traditional health and illness beliefs
4	4.59	2.97	Religious practices and beliefs
5	4.48	2.94	Kinship ties
6	4.45	2.92	Gender role and responsibility
7	4.34	3.11	Language preference
8	4.28	2.40	Religious background and identity
9	4.17	2.45	Time perception and orientation
10	4.17	2.80	Folk medicine tradition and use
11	4.17	2.63	Role of family during illness <sup>24</sup>
12	4.07	2.37	Ethnic background and identity
13	4.00	2.80	Attitudes about health care technology
14	3.97	2.40	Racial background and identity
15	3.97	2.72	Ethnic food preferences
16	3.90	2.57	Meaning of nonverbal behaviors
17	3.86	2.66	Meanings of space and touch
18	3.86	2.52	Home environment
19	3.79	2.93	Financial concerns
20	3.72	2.68	World view (philosophy of life)
21	3.72	2.34	Acceptance sick role behaviors
22	3.69	2.52	Meaning if verbal communication patterns
23	3.66	2.54	Level of English comprehension
24	3.66	2.64	Role of children
25	3.55	2.64	Role of elders
26	3.52	2.46	Aging
27	3.48	2.65	Acculturation
28	3.41	2.29	Discrimination and bias experiences

grouped by Filipino Clinical Instructor's demographic profile. The results show that there are significant differences on the rated level of Saudi student nurses' clinical cultural competence behavior when grouped by Filipino Clinical instructor demographic profile ( $p \leq 0.05$ ), this only shows that Filipino Clinical Instructors' method of rating the student nurses varies and affects student nurses' competency level.

## DISCUSSION

The Saudi nursing students in the eyes of their clinical instructors had average cultural competency levels in the provision of safety, relief of pain and discomfort, as well as in eliciting informed consent to particular treatments. Informed consent, confidentiality, privacy, autonomy, safety, respect, treatment choice, refusal of treatment, and participating in an agreed treatment plan are specified in most patients' bills of rights (Habib and Al-Siber 2013), while patient safety is an essential and

vital component of quality nursing care (Ballard, 2003). This shows that the Clinical Instructors could inculcate into their students, their knowledge on the patients' bill of rights and patient safety, which is vital in the provision of nursing care. This is in accord with the study of Alsulaimani et al. (2014) on the cognitive competency of Filipino nurses working at Taif City, wherein the provision of safety to patients was associated with education and training levels. Nurses are for the most part altruistic and strive to do what is morally right in the service of human beings and society (Roy and Jones, 2006). On the other hand, relieving patient from pain and discomfort is fundamental to nursing care. According to Kolcaba's Comfort Theory (2010), nursing is described as the process of assessing the patient's comfort needs, developing and implementing appropriate nursing interventions, and evaluating the patient's comfort needs following nursing interventions. In this study, the Clinical Instructors had clearly instilled basic knowledge in the minds of the Saudi nursing students on addressing the comfort needs of the sick patient upon initial encounter or

**Table 3.** Mean score distribution on the level of Saudi student nurses' clinical cultural competence behavior in culturally sensitive and professionally appropriate attitude, values or belief (affective scale) for providing culturally sensitive professional nursing care as rated by Filipino Clinical Instructor.

Rank	Score	± SD	Mean affective scale
1	6.14	2.90	Awareness of: His/her own cultural heritage and belief systems
2	6.10	9.63	More awareness of: Insensitive and prejudicial treatment
3	5.52	2.81	More readily recognizes: Impact of roles on health care practices
4	5.48	2.79	More committed advocate for: Client's decisions based on cultural beliefs
5	5.45	2.84	Awareness of: Difference within His/her cultural group
6	5.45	2.92	More aware of: Professional caring behaviors
7	5.41	2.80	More readily recognize: Impact of values on health care practices
8	5.38	2.68	Awareness of: His /her biases and limitations
9	5.21	2.92	More aware of: Interaction between nursing, folk, and professional systems
10	5.17	3.26	More appreciative of: Interaction with people of different cultures
11	5.03	2.99	More readily recognize: Impact of socioeconomic factors on health care practices
12	5.03	2.58	More readily recognize: Need of cultural care accommodation/negotiation
13	5.00	2.74	More readily recognize: Need of cultural care preservation/maintenance
14	4.97	2.53	More readily recognize: Need of cultural care repatterning/restructuring
15	4.93	2.51	More readily recognize: Impact of political factors on health care practices
16	4.90	2.97	More accepting of: Similarities between cultural groups
17	4.86	2.60	More readily recognize: Inadequacies in the Government health care system
18	4.86	2.84	More committed advocate for: Culture-specific care
19	4.83	2.65	More aware of: Differences in perceived role of the nurse
20	4.83	2.49	More readily recognize: Need to prevent ethnocentric views
21	4.79	2.80	More aware of: Comfort and discomfort felt when entering a culturally different world
22	4.79	2.92	More accepting of: Client's refusal of treatment based on beliefs
23	4.79	3.30	More appreciative of: Role of family in providing health care
24	4.76	2.92	More accepting of: Differences between cultural groups
25	4.72	2.64	More aware of: Traditional caring behaviors
26	4.72	2.59	More readily recognize Need to prevent cultural imposition
27	4.69	2.88	More appreciative of: Culture-specific health care
28	4.55	2.56	More readily recognize: Importance of home remedies and folk medicine
29	4.52	3.12	More appreciative of: Client's world view (philosophy of life)
30	4.45	2.63	More appreciative of: Cultural sensitivity and awareness

assessment. Thus, they were aware that a person in pain cannot respond readily to the assessment process, because the tendency of the patient in pain or in discomfort is avoidance (American Academy of Pediatrics, 2001). Informed consent is another tenet of "patient rights" wherein the patient has the right to be fully informed of any nursing or medical procedures to be provided as well as their diagnosis and treatment plan (Almoajel, 2012). However, these students had poor cultural competency levels in terms of dealing with sexuality. This can be attributed to language barriers, because the clinical instructors were not proficient in the Arabic language and found it difficult to ask questions of the patients in terms of sexuality and the birthing process, and vice versa. The patients also had difficulty in understanding the English language, so the nurse educators/clinical instructors could not discuss sexuality or birth processes in detail in front of the patient, while

coaching the nursing students. This is consistent with the study by Karout et al. (2013) on Saudi Arabian women's experience and perception of maternal health services, that the biggest problem discussed by most women was that of linguistic diversity; not only the difference between the English and Arabic languages but extending to the accents of non-English speakers such as Indians, Filipinos and Pakistanis. In addition, the study conducted by Albagawi (2014) on examining barriers and facilitators to effective nurse-patient communication within the Saudi Arabian cultural context found that effective communication was not achieved because of many complex and overlapping personal, professional and organizational factors. Furthermore, according to Schyve (2007), differences in language and cultural differences are barriers to effective communication, resulting in low health literacy. Alsulaimani et al. (2014), in their study of cognitive competency of Filipino nurses working at some

**Table 4.** Average mean score distribution on the level of Saudi student nurses' clinical cultural competence behavior on the three domains of cognitive, affective and practical scale as rated by Filipino Clinical Instructors.

Cultural domain	Average mean score	Competency level
Provision of culturally specific care (cognitive domain)	4.31	Average
Cultural assessment (practical domain)	4.08	Average
Culturally sensitive and professionally appropriate attitude, values or belief (affective domain)	5.04	Average

**Table 5.** Inferential statistics (ANOVA) results of rated cultural competency level of Saudi nursing students when grouped by the respondents' profile.

Profile	1	2	3	4	5	6	7	8	9
Cognitive	0.4316	0.8248	0.4886	0.1226	0.1807	0.315	0.0141	0.0504	0.0791
Practical	0.5436	0.2723	0.3671	0.1769	0.4021	0.2926	0.0439	0.147	0.0272
Affective	0.225	0.6507	0.319	0.0789	0.1913	0.8171	0.2346	0.9424	0.583

1: Age; 2: Gender; 3: Work setting; 4: Current work position; 5: Highest educational attainment; 6: Work experience in the academe; 7: Work experience in Healthcare Institution; 8: Previous College course in transcultural nursing; 9: Continuing education in transcultural nursing. Level of significance of difference is  $p$ -value  $\leq 0.05$ .

hospitals of Taif City, revealed that aside from language barriers, shyness and reluctance of Saudi patients to discuss sexuality and birth are factors to consider, because they are hesitant to disclose detailed information about themselves and their families. Being conservative, they can be embarrassed by questions on their sexual relationships and other personal matters. Karout et al. (2013) found in their study of Saudi Arabian women's experiences and perception of maternal health services that "the presence of non-Muslim service providers did not satisfy them because they believed that Muslim service providers will not look at their uncovered bodies especially their genitalia unless there is a need for that, and they will be conscious uncovering themselves". Thus, the Clinical Instructors found it difficult to create scenarios for the students to experience and participate in the learning process because of the patient's culture. Consequently, this lack of opportunity for the Saudi nursing students to perform the task expected of them decreased their self-efficacy. As Bandura (2006) stressed, "If a person sees someone similar to them succeed, it can increase their self-efficacy, and also, seeing someone fail can lower self-efficacy". Furthermore, according to Bandura (2006), "positive and negative experiences can influence the ability of an individual to perform a given task". This is one reason why the clinical instructors perceived Saudi nursing students' cultural competency level to be low in terms of discussing sexuality and birth as they have little knowledge in these particular concepts because of lack of the opportunity to perform in the practice care setting. This is in agreement with the study conducted by Lofmark and Wikblad (2001) that opportunities to practice different tasks and understanding the total picture facilitate the

development of learning, while supervision that lacks continuity and lack of opportunities to practice hinders development of learning. In addition, a supportive clinical environment is one factor for enabling an effective clinical experience, which includes the atmosphere of a clinical placement unit, and the relationships shared with clinical staff supervisors and mentors (Lawal et al., 2016).

This study shows that, these Saudi student nurses had only average cultural competency, according to the ratings by the clinical instructors that reflected their own level of cultural competence. This was because nursing students view their clinical instructors as their role models and their learning acquisition was a result of knowledge transfer. These clinical instructors demonstrated competence in teaching and were able to role model cultural nursing even without previous knowledge or continuing education in transcultural nursing. Their academic preparation and expertise in the clinical area had significant impacts on student learning ability.

The role of clinical instructors in the learning development of nursing students is crucial as they greatly influence students' learning processes. Interactions with their clinical instructors, peers and patients contribute to the students' professional value systems. Therefore, provision of environments wherein the nursing students will experience all aspects of nursing roles will increase their self-confidence, professional values and clinical skills. The cultural competency of the nursing students will advance as they continuously provide nursing to culturally diverse patients. Clinical instructors must always emphasize to the students that "knowledge of the role of culture in health and illness" is essential for the development of culturally sensitive communication skills, while awareness of one's own cultural health beliefs and

practices in the performance of nursing care will develop culturally congruent communication skills as well as the development of skills in identifying variations between and within cultures.

The findings suggest that all clinical instructors must be included as respondents in the same study at the same locale to measure the student nurses' clinical and cultural competence behavior aiming to establish a strong basis for transcultural nursing. This must be included in the curriculum, and self-evaluations of the student nurses and clinical instructors' cultural competence must also be studied. Continuous updating on transcultural nursing for all clinical instructors is recommended to enrich their knowledge and skills in this field.

## CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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*Full Length Research Paper*

# Practice of child spacing and its associated factors among women of child bearing age (15 to 49 years) in Illubabor zone, South West Ethiopia

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Optimal birth spacing refers to resting period between pregnancies that allows the mother time to recuperate from pregnancy, labor and lactation. Long time period between births allows the next pregnancy and birth to be at full gestation and growth for years. This study aimed to assess practice of child spacing and its associated factors among women of child bearing age in Illubabor Zone of Oromia National Regional State, South West Ethiopia, from January to June 2016. A community based cross sectional quantitative study design was used. A stratified multistage sampling procedure and face to face interview with Afan Oromo and Amharic version was done by administering questionnaire on 826 women of child bearing age. Women from rural areas were about 3 times more likely to have short birth interval than their urban counterparts [AOR = 3.39 (95% CI: 1.13, 4.10)]. Respondents with no formal education were 2.56 times more likely to practice short birth interval than those with higher education [AOR = 2.56, 95% CI (1.60, 3.42)]. As compared to mothers whose husbands were employee, women whose husbands were farmers were more likely to have short birth interval [AOR = 3.50, 95% CI (1.29, 4.42)]. Mothers who breast fed their child for less than 12 months were 5 times more likely to practice short birth interval than those who breast fed for 24 months or more [AOR = 5.36, 95% CI ((3.43,6.34)]. Women who were not using contraceptives were 4.42 times more likely to give birth within short period of time than contraceptive users [AOR = 4.12 (95% CI: 2.71, 5.82)]. Women with fourth wealth quartile were 3.18 times more likely to have short birth interval than those with the lowest wealth quartile [AOR = 3.18(95% CI: 1.75, 4.56)]. Birth interval was short in this study. Therefore, greater attention should be given to contraceptive use and paternal education in addition to infant and child mortality prevention.

**Key words:** Birth spacing, knowledge, contraceptive, women.

## INTRODUCTION

Scholars defined optimal birth spacing as resting period between pregnancies that allows the mother time to recuperate from pregnancy, labor and lactation. Longer

time period between births allows the next pregnancy and birth to be at full gestation and growth for years. Family planning programs support two years intervals between

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births for infant and child health and survival (RamaRao et al., 2006; Orji et al., 2004). But recent studies recommend that birth intervals of 3 to 5 years are safer for mothers and babies as compared to birth intervals of two years or less (Yohannis et al., 2003; Orji et al., 2004).

Inter birth interval (IBI) has significant effect on the health status of the mother and her child (Cleland et al., 2008). It was indicated to be linked with increased risk of maternal morbidity and mortality, preterm birth, low birth weight, small for gestational age (SGA), labor dystocia, premature rupture of membranes, third-trimester bleeding, anemia and puerperal sepsis (USAID, 2005; WHO, 2005).

According to the Ethiopian Demographic and Health Survey (EDHS, 2014) report, with the exception of first birth, there is an inverse relationship between the length of the preceding birth interval and proportion of child who are stunted. The shorter the interval, the higher the proportion of children stunted. In Ethiopia, 40% of children under age five are stunted, and 18% of children are severely stunted. In general, the Central Statistical Agency (CSA) provide the prevalence of stunting increases as the age of a child increases, with the highest prevalence of chronic malnutrition found in children age 24-35 months (52%) and lowest in children between age six and eight months (9% percent) (CSA, 2014).

Besides the health implication, closely spaced birth intervals accelerate the population growth and challenge the development efforts of a country. By limiting women contribution to economic development, it makes difficult for them to become productive members of society. Moreover, when a newborn baby comes, that family will invest more of its limited resources to care for the newborn, while the other children will be left behind to receive insufficient share of the resources (USAID, 2005). On the contrary, optimal birth spacing (OBS) yields the greatest health, social and economic benefits for the family. Although, previous research findings advocate an interval length of 2 years between two consecutive births for a better maternal and child health (WHO, 2005), current evidence shows that births should be spaced at three to five years apart to ensure the greatest health benefits for mothers, newborns and older children (WHO, 2005; USAID, 2005).

Davanzo et al. (2004) attributes the adverse consequences of a short birth interval for infant and child survival and maternal mortality to the biological effects related to the “maternal syndrome” or more generally, the women not fully recovering from one pregnancy before supporting the next one (which may lead, for e.g., to anaemia and premature rupture of membranes).

Ethiopia is one of the countries with the highest maternal mortality ratios in Africa and the world, estimated at 673 per 100,000 live births in 2011. This is associated with the low levels of antenatal care and birth attendance by health professionals in Ethiopia, especially

among the poor-as well as early age at marriage and first birth. Among the 20 to 35 years old, about 30% of all female adult deaths are from maternal deaths at birth (CSA, 2006 cited in World Bank, 2007).

Addressing these issues is vital because short birth interval is a modifiable risk factor and is potentially within the control of individuals and couples. Birth spacing is a public health intervention that can use available modern contraceptive methods and technologies. The birth spacing programs, using contraception in combination with revised and strengthened birth spacing education and counseling messages, can be mainstreamed into existing health and non-health programs in both clinical setting and community setting. Therefore, understanding practice of birth interval and its associated factors among women of reproductive age is critical for countries like Ethiopia with a population policy aiming at reducing fertility.

## MATERIALS AND METHODS

### Study design

A community based quantitative cross-sectional study design was used. All married women in reproductive age group (15 – 49 years) having at least two children available at their household during the data collection period were included in the study.

### Sample size determination

The sample size was determined using the formula for single population proportion and considering 36.8% proportion of optimal birth interval in Lemo District, Southern Ethiopia (Yohannes et al., 2011), 95% CI 5% margin of error, design effect of 2 and 10% non response rate yielding the total sample size of 826.

An attempt was made to adopt a three stage sampling technique. The first stage involved the selection of districts by simple random sampling technique. The second stage was selection of Kebeles from the selected districts again using simple random sampling technique. Then, the third stage was selection of households using systematic random sampling technique.

### Data collection procedures

The data were collected using pre-tested interview guided semi-structured questionnaire. The questionnaire was prepared in English and translated to Amharic and Afan Oromo versions. It was checked for its consistency and then translated back to English by different individuals. The translations were made by those who are well oriented with the stated languages (language professionals). The instrument was adopted from different literatures developed for similar purpose by different authors and tools designed by various organizations.

### Data analysis

The data were double entered onto EPI data version 3.1 and exported to SPSS (SPSS Inc. version 20.0, Chicago, Illinois) computer software for further analysis. Errors related to inconsistency of data such as missing values and outliers were



checked and well thought-out during data cleaning. Descriptive statistics were used to give clear picture of the dependent and independent variables. Frequency distributions of the variables were worked out using tables and figures. Logistic regression model fitness was checked by using Hosmer Lemshow test of significance and omnibus test.

A two-step logistic regression (bivariate and multivariable) analysis was done to see the effect of independent variables on practice of child spacing in married women of child bearing age (15-49 years). In the first step, bivariate analyses were done to assess the association between each independent variable and the outcome variables. All variables with p-value less than or equal to 0.25 in the bivariate logistic regression model were entered into the multivariable logistic regression model using backward elimination method to control for all possible confounders. At this step, odds ratio along with 95% CI was estimated to identify factors associated with optimum child spacing.

#### Data quality control

The appropriateness of the questionnaire in terms of content, consistency, language and organization was checked meticulously and was modified in line with standards, guidance and suggestion from peer reviewers. A pretest was employed in Bedele 01 kebele on a total of 42 (5%) of respondents five days prior to the actual data collection. Findings were discussed among data collectors and supervisors in order to ensure the quality of data.

Based on the pretest, questions were revised, edited and those found to be unclear or confusing were modified. Finally, structured closed ended Afan Oromo and Amharic version questionnaire were used for data collection.

Supervisors and data collectors were trained on the data collection process, accuracy and completeness for three consecutive days. The overall activity was closely monitored by principal investigators of the study during data collection. To reduce non-response rate and unwanted confusion, necessary information and description was given to the study participants before initiating the interview. The data quality was controlled by designing ideal data collection tools and close supervision with aggressive monitoring. The information obtained was checked and cleaned up before and after data entry.

## RESULTS

### Socio-demographic characteristics

Out of 811 study population, 582 (71.8%) were rural residents and the rest 229 (28.2%) were urban residents. One-third (32.2%) were in the age ranges of 25-29 years. About three-fourth (72.6%) were Muslim. Out of the total participants, nearly two-third (61.4%) cannot read and write, whereas 52.7% of the respondent's husband attended primary education. About one third of the participants (66.5%) were from Oromo ethnic group. Greater parts of the respondents (84.0 %) were housewives and 72.7% of the respondent's husbands were farmers. More than half, 472 (58.2%) were in the third wealth quartile (Table 1).

### Knowledge of birth spacing

Almost all (97.7%) of the respondents have ever heard

about optimal birth interval between two successive live births. Among those who have the awareness, less than one-fifth (16.4%) reported the optimal birth interval between two consecutive births to be between 36 and 60 months. The results showed that almost all (98.2%) of the respondents, reported the presence of health advantages of birth spacing.

### Birth history of the respondents

More than one-third (36.3%) of the respondents gave birth to live child. The intention to become pregnant before the conception of the last child was asked. Accordingly, 321 (41.2%) of the respondents wanted to become pregnant then and 459 (56.6%) desired to postpone the pregnancy to sometime later. Sex and status of the last child was also asked. Accordingly, 588 (72.5%) of the mothers had male and 764 (94.2%) of the children were alive.

### Practice of birth spacing

More than half (51.2%) of the study subjects had short birth interval. More than one-third (34.9%) respondents had optimum birth interval and the remaining had long birth interval (Figure 1).

### Breast feeding practices

The study revealed that 366 (45.1%) of the respondents breast fed their children for 24 months or more and the reason for stopping breast feeding for about three-fourth (72.5%) of the respondents was the child was too old.

### Use of contraceptives

More than half (55.1%) of the respondents have not been using contraceptive methods before conception of the last child. Nearly three-fourth of the respondents reported that the reason for not using contraceptive was desire for more children.

### Predictors of birth interval

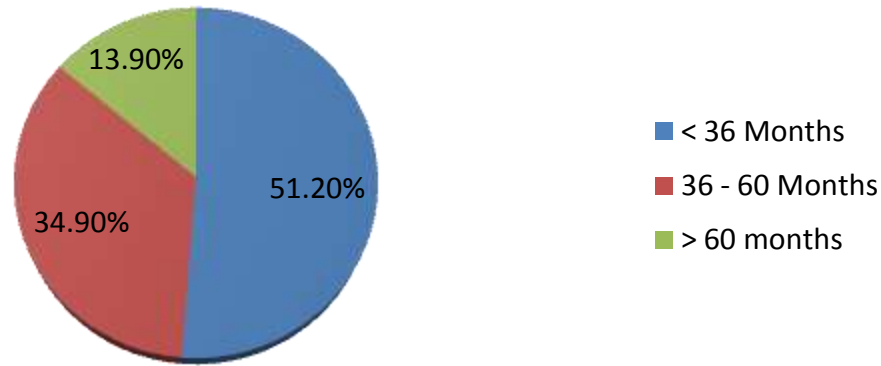
In the multivariable logistic regression analysis, women from rural residents were 3.39 times more likely to have short birth interval than their urban counterparts [AOR =3.39 (95% CI: 1.13, 4.10)]. Respondents who cannot read and write were 2.56 times more likely to practice short birth interval than those with secondary education and above [AOR = 2.56, 95% CI (1.60, 3.42)]. As compared to mothers whose husbands were employee, women whose husbands were farmers more likely to

**Table 1.** Socio-demographic characteristics of the respondents in Illubabor Zone, South West Ethiopia, 2016.

Variable	Categories	Frequency (n=811)	Percent
Residence	Rural	552	68.1
	Urban	299	31.9
Maternal Age	20 – 24	122	15
	25 – 29	262	32.2
	30 – 34	201	24.8
	35 – 39	102	12.6
	40 – 44	124	15.3
Marital Status	Married	768	94.7
	Divorced	18	2.2
	Widowed	25	3.1
Religion	Protestant	61	7.5
	Orthodox	161	19.9
	Muslim	589	72.6
Ethnicity	Oromo	539	66.5
	Amhara	272	33.5
Maternal Education	Cannot read and write	489	61.4
	Primary	192	23.7
	Secondary and Above	121	14.9
Husband's Education	Cannot read and Write	294	36.3
	Primary	427	52.7
	Secondary and Above	90	11.1
Maternal Occupation	Employee	60	7.4
	Housewife	681	84.0
	Merchant	30	3.7
	Others	40	4.9
Husband's Occupation	Employee	130	16.0
	Merchant	30	3.7
	Farmer	590	72.7
	Others	61	7.5
Wealth Index	Lowest quartile	92	11.3
	Second quartile	148	18.2
	Third quartile	472	58.2
	Highest quartile	99	12.2

have short birth interval [AOR = 3.50, 95% CI (1.29, 4.42)]. Mothers who breast fed their child for less than 12 months were more likely to practice short birth interval than those who breast fed for 24 months or more [AOR =

5.36, 95% CI ((3.43,6.34)]. Women who were not using contraceptives were 4.42 times more likely to give birth within short period of time than contraceptive users [AOR = 4.12 (95% CI: 2.71, 5.82)]. Women with fourth wealth



**Figure 1.** Proportion of birth interval among women of reproductive age (15 – 49 years) in Illubabor Zone, South West Ethiopia, June 2016.

quartile were 3.18 times more likely to have short birth interval than those with the lowest wealth quartile [AOR = 3.18(95% CI: 1.75, 4.56)]. (Table 2)

## DISCUSSION

This study tried to assess the practice and determinants of child spacing among women of child bearing age in Illubabor Zone, South West Ethiopia. More than half (51.2%) of the respondents had short birth interval. Place of residence, maternal education, husband's occupation, wealth quartile, duration of breast feeding, contraceptive use and status of index child, were independent predictors of child spacing among women of reproductive age.

A study conducted in Southern Ethiopia in 2010 indicated that more than half (57.6%) of the study subjects had short birth interval. Two hundred ninety (35.8%) respondents had optimum birth interval and the remaining had long birth interval (Yohannes et al., 2011). This study also revealed similar result in that more than half, 415 (51.2%) of the study subjects had short birth interval. Two hundred and eighty three (34.9%) respondents had optimum birth interval and the remaining had long birth interval.

Similarly, the study conducted in Southern Ethiopia revealed that rural women were more likely to have short birth interval than urban women (Yohannes et al., 2011). This study also revealed similar result that rural women were more likely to have short birth interval than urban women. This study found out that respondents who cannot read and write were 2.56 times more likely to practice short birth interval than those with secondary education and above. This finding is also consistent with a study conducted in Northern Iran in 2007, where with increase in maternal education level, the birth interval significantly increased (Hajian-Tilaki et al., 2009).

The study conducted in Dabat district showed that women whose husbands were farmers had about 2.3

times more likely to have subsequent birth after the index child as compared to women whose husbands were employees (Tessema et al., 2013). This study also found out those women whose husbands were farmers had high chance of having short birth interval.

Women with the fourth wealth quartile were more likely to have short birth interval than those with the lowest wealth quartile. This finding is similar to a study conducted in Southern Ethiopia that revealed women with highest wealth quartile were more likely to have short birth interval than those with lowest wealth quartile (Yohanes et al., 2011). The reason might be women with the lowest wealth quartile might be busy on their daily earning to fulfill their basic needs which might have resulted in delay of becoming pregnant.

Mothers who breast feed their children for less than 12 months were more likely to practice short birth interval than those who breast feed their children for 24 months or more. This finding is again consistent with a study conducted in Northern Iran that showed, with increased duration breast feeding, the mean birth interval increased significantly (Hajian-Tilaki et al., 2009).

In a study in Southern Ethiopia, women who were not using contraceptives were more likely to give birth within short period of time than users (Yohannes et al., 2011). The finding of this study is consistent with this similar finding that showed women who were not using contraceptives were more likely to give birth within short period of time than contraceptive users.

In Ethiopia, different studies showed significant higher risk of a conception in the months following the death of an index child, even after controlling for postpartum amenorrhea and breastfeeding status. Most Ethiopian women are more eager to replace a dead child when they are close to their desired family size (Lindstrom and Kiros, 2007). This study also revealed that mothers whose index child were alive were more likely to have long birth interval than mothers whose index child died. It is alleged that the difference in the birth interval is related to the desire of parents to replace a dead child as well as

**Table 2.** Multivariable logistic regression analysis indicating factors associated with birth spacing among respondents in Illubabor Zone of Oromia National Regional State, 2016.

Characteristics	Birth interval		AOR 95% CI
	Optimal N (%)	Sub optimal N (%)	
<b>Residence</b>			
Urban	30(13.1)	199(86.9)	1.00
Rural	283(43.5)	328(56.5)	3.29 (1.13, 4.10)
<b>Maternal education</b>			
Cannot read and write	167(33.6)	330(66.4)	2.56(1.60, 3.42)
Primary education	55(28.6)	137(71.4)	0.79(0.55, 1.14)
Secondary and above	61(50.4)	60(49.6)	1.00
<b>Education of husband</b>			
Cannot read and write	68(23.2)	225(76.8)	2.53(0.82, 3.53)
Primary education	185(43.3)	242(56.7)	1.65(0.49, 2.77)
Secondary and Above	30(33.3)	60(66.7)	1.00
<b>Occupation of husband</b>			
Employee	74(51.0)	71(49.0)	1.00
Farmer	178(31.0)	396(69.0)	3.50 (1.29, 4.42)
Others*	31(34.10)	60(65.9)	0.49(0.28, 1.850)
<b>Wealth quartile</b>			
Lowest quartile	26(28.30)	66(71.7)	1.00
Second quartile	50(34.0)	97(66.0)	1.31(0.74, 2.310)
Third quartile	172(36.40)	300(63.60)	1.45(0.89, 2.370)
Fourth quartile	35(35.40)	64(64.6)	3.18(1.75, 4.56)
<b>Duration of breast feeding</b>			
0 – 6 months	29(15.8)	154(84.20)	2.36(0.37, 4.06)
7 – 12 months	40(30.8)	90(69.2)	5.36(3.43, 6.39)
13 – 23 months	30(22.90)	101(77.1)	1.57(0.89, 2.78)
>=24 months	184(95.3)	182(49.7)	1.00
<b>Contraceptive use</b>			
Yes	61(37.20)	103(62.8)	1.00
No	10(15.2)	56(84.8)	4.12(2.71,5.82)
<b>Status of index child</b>			
Alive	19(41.3)	27(58.7)	1.00
Dead	264(34.6)	500(65.4)	3.75(1.41, 4.37)

\*Merchants, students, daily laborers; AOR =adjusted odds ratio, CI = confidence interval. The bolded values are the variables in the final model.

to the loss of fertility delaying effects of breastfeeding.

Readers shall take into contemplation, the following limitations when interpreting the findings of this study. First, the cross-sectional nature of the study had made it impossible to reach at causal relationship between

different independent variables and birth interval. Second, the source of data for this study was based on the self-report of respondents, and provided no validation of obtaining information with objective source such as health facility cards. But it is logical to assume that bias

are less likely in delivery related events as compared to sensitive issues such as sexual behavior and drug abuse and respondents were informed about the importance of giving accurate responses and also assured confidentiality of their responses.

## CONCLUSION AND RECOMMENDATIONS

Almost all the respondents have ever heard about optimal birth interval between two successive births. However, more than half (57%) of the participants in the reproductive age group have been practicing short birth interval below the recommended duration of optimal birth spacing. Place of residence, maternal education, husband's occupation, wealth quartile, duration of breast feeding, contraceptive use and status of index child, were independent predictors of optimal child spacing among women of reproductive age.

Hence, in the interventions designed to address optimal birth spacing, use of contraceptive methods and maternal education should be given greater attention in addition to prevention of infant and child mortality.

## CONFLICT OF INTERESTS

The authors declare that there is no conflict of interest.

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