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GENDER DIFFERENCES IN THE LEVEL OF EMPATHY IN MATERNAL CARE AND ASSOCIATED FACTORS, AMONG MIDWIFERY STUDENTS, HARERI COLLEGES OF MIDWIFERY, EASTERN ETHIOPIA

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ABSTRACT

Empathy is the most important & the key cornerstone in genuine human relationships but the least recognized part as nursing and midwifery care. Health professional including midwives lack communication skill that enable them to the bottom of the problems of their patients and address their needs. Being supportive, compassionate, and caring are fundamentally important roles of an effective midwife. This study investigated gender difference in level of empathy and associated factors among midwifery students, in Hareri colleges of midwifery, Eastern Ethiopia. Facility based comparative cross-sectional study design was used with both qualitative and quantitative data from Feb.1-April 6 / 2012 on a sample of 326 midwifery students. A self-administered questionnaire was used and stratified and simple random sampling technique was used to select midwifery students for quantitative method and purposive sampling techniques were used to select midwifery students for the FGD by considering both the inclusion and exclusion criteria. Bivariate and multivariable logistic regression model, t-test, one way ANOVA, was used to compare level of empathy by independent variables. Result showed that overall 50.94% have had high level of empathy with the mean empathy score of 101.63; and about 20 independent factors were associated with high level of empathy. But, based on gender, 18 for female and 4 independent variable for male had association with empathy in bivariate logistic regression. Significance association were found in standing in patient shoe's by gender, females were significantly different and had high empathy than male (COR= 2.718, 95% CI [1.444, 5.118]), P=0.002 but there was no significant different were found in age groups, gender and educational level by these three classifications.

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INTRODUCTION

The global MMR stood at 430, that is, 1 in 20 live births worldwide. Thus, improving maternal health and reducing the 1990 level of MMR by 75% in 2015 is set as a key objective in the MDGs (Ethiopian Society of Population Studies, 2008). An estimated 500,000 women die as a result of pregnancy each year. Most of the deaths, 99%, are in developing countries. The magnitude of maternal death is very high in Sub-Saharan Africa and South Asia (Mesfin Addisse, 2003). In Ethiopia 673 per10, 000 deaths (Yared Mekonnen and Asnaketch Mekonnen, 2002), this is the highest in the world (Aynalem Adugna). Maternal and child health care, like most other aspects of health in Ethiopia, are not well developed (WHO, 2009). WHO's strategic objective aims to reduce morbidity,

mortality and improve health during key stages of life (pregnancy, childbirth) (Central Statistical Agency Addis Ababa, Ethiopia, 2011). Proper care during pregnancy and delivery is important for the health of both the mother and the baby, and is the fifth MDG (Eva S. Bazant and Michael A. Koenig, 2009). Ensuring patient satisfaction as a means of secondary prevention of maternal mortality since satisfied women may be more likely to adhere to health provider's recommendations (Central Statistical Agency, 2005). Midwives can help women and make their own decisions, without pressure and biases but with empathy (Helen Varney and Jan M. KRIEBS, 2004), because empathy is a cornerstone of human behavior and has long been considered innate (Jamil Zaki, 2011). Many studies have reported that there is a gender difference in empathy (Linda Rueckert and Nicolette Naybar, 2008). Minor differences in empathy levels can create very different approaches to communication (Kliszcz *et al*., 2006). Lack of empathy and poor staff attitude influenced woman's reactions to labour pain (Central Statistical Agency Addis Ababa, Ethiopia, 2011). Though, this severely limited the optimal reach of even available maternal health services (Helen Varney and Jan M. Kriebs, 2004). Biologically females are more empathetic than male in nature and many factors affects level of empathy (Eva S. Bazant and Michael A. Koenig, 2009). Research shows that women demonstrate more empathy than men and express more caring attitude (Central Statistical Agency, 2005). The lower levels of empathy in a male could lead him to destroy or dominate and higher levels of empathy in a female might lead her to please or appease (Harish Nair and Rajmohan Panda, 2011). Empathy is a complex; multidimensional concept that has moral, cognitive, emotive and behavioral components (Helen Varney and Jan M. Kriebs, 2004). It produces a genuine "altruistic motivation" is of great relevance for future midwives because it is a connection to the entire universe (Nursing without empathy would be empty). In the context of midwifery practice empathy has not been widely explored. Existing midwifery literatures are sparse on both the importance of midwife-woman relationship (Daniel Chen *et al*., 2007). It is a hall mark of most midwifery students' perception of calling to this profession (Cindy Farley and Kathy Camacho, 2003) since nursing midwifery training is a planned process aimed to achieve changes of behavior in students regarding their profession. Women who experience complications during maternal care may especially value provider empathy because it has a large positive effect on women's satisfaction in delivery care (Paula Nunes *et al*., 2011). Empathy is the most important and key cornerstone in genuine human relationships. If we are conscious, helps us to observe reality through their eyes, feel their emotions and share in their pain (Lamm *et al*., 2007). Empathy is seen to be a varied and rich phenomenon which shows itself to different degrees and extents in different context. It has powerful effects not only on relationships and behavior but also fundamental to high quality learning. (BRIDGET COOPER, 2004), by facilitating communication, understanding, and imitation (Singer, Tania *et al*., 2004), good learning, effective transfer of knowledge (Capacity Enhancement through Knowledge Transfer [Internet]). For care-providers learn to listen with the "3rd ear" and to see with the 'mind's eye (Hojat *et al*., 2002), for patients it reduces pain & distress, BP and BGL (Paula Nunes *et al*., 2011) Better listeners, encourages to talk, creates an atmosphere of openness and promote relaxation (Kristine Krapp, 2002) Enhance Diagnostic accuracy (Stewart W Mercer and William J Reynolds, 2002) Improve clinical outcomes, medical-legal risk (Kathy A.Stepien, 2006; Mohammadreza Hojat *et al*., 2002). Especially for women receiving midwifery based care were less likely to experience fetal loss before 24 wks of GA, their babies have shorter period of hospital stay (Bharati Sharma and Dileep Mavalankar, 2009) Help mothers in attaining motivation for establishment of lactation, breastfeeding (Laura N. Haiek *et al*., 2011) Feel more in control & competent in normal birth processes, reduce the need for obstetric intervention, satisfied with their birth experience, More likely to have shorter labour, and vaginal birth (Central Statistical Agency, 2005) For both (care provider and patients) generates confidence and trust, facilitates satisfactory care (Mohammadreza Hojat *et al*., 2004), build rapport, improve communication (Aynalem Adugna). It allows to understanding each other, learning from each other and living with each other (Singer, Tania *et al*., 2004). It improves social, mental and physical well-being of those cared for and people who matter to them. Sensitivity towards others is crucial, which is characterized by empathy and being prepared to "give that little bit extra", encompassing elements such as active listening, therapeutic touch and effective eye contact (Dundee University, 2011). Though it is an essential component in the moral psychology of an individual motivated towards international humanitarian aid which is consistent with killing and dying for others and key instrument improving the therapeutic effectiveness of the clinician-patient relationship. It is commonly expressed in phrases like "taking the perspective of the other" and "walking a mile in the other's shoes" (David W. Power and Justice, Empathy 2009). This is the easiest way that leads to effective care, understanding patient's verbal and emotional behaviors', and attitude (Kliszcz *et al*., 2006). Practitioners to be effective must know how to listen, how to talk with patients and how to communicate their understanding, since listening and empathizing are essential skills when relating to others (Kliszcz *et al*., 2006). So being able to measure empathy scientifically means we can also study its determinants or why some people have more or less of this vital resource (Simon Baron-Cohen, 2011).

MATERIALS AND METHODS

Midwifery college students' level of empathy was assessed by adopted JSPE-HPS-V 20 item self administered structured questionnaire which was widely used and current psychometrically validated tool designed to measure empathy among health professionals and trainees (students). A 7-point Likert Scale that measures the extent of students agreement to the statement with anchors from "strongly disagree=1" to "strongly agree=7" If student responds above over all mean of empathy measurements considered as having high level of empathy and vise-versa. The questionnaire included 3 sub categories measuring different dimensions of empathy (a) compassionate care; (8 items 4,7,8,9,10,12,15,16 Range 8-56), (b) perspective taking; (10 items 1,2,3,5,6,11,13,14,17,18. Range 10-70), and (c) standing in patient's shoes (understanding the patient's experience, 2 items, 19, 20. Range 2-14). Results range from 20 through 140. To reduce the confounding effect of agreeing (acquiescence) responding style, half items were positively-worded and directly scored "strongly disagree=1" to "strongly agree=7" and other half was negatively-wordedand reversed score (1=strongly agree, 7=strongly disagree) after wards reversed for analysis (33). Other associated factors were included like socio-demographic, family history, personal experience, recreational

and social life, perceived teacher's way of teaching and communication skill questions. The questionnaire was labelled as 'empathy model' in order to avoid subject bias and demand characteristics. A non-teaching member of staff three diplomas and one BSc nurse from hospitals facilitated the process and collected the data.

Statistical analysis

Data were checked for its completeness and edited, cleaned, coded, entered and analyzed using SPSS-version 16.0. Descriptive statistics, means, median and SD of level of empathy, were used to summarise the demographic and some JPSE-HPS-V data. Simple frequency tables, graphs and charts,t-test and one way with Scheffe post hoc test were used. To compare the difference between men's and women's mean empathy scores, by age groups, gender, and educational level was done by using Student t-test and one way with Scheffe post hoc test to investigate which groups of participants differ from one another. Bivariate then multivariate analysis was carried out to see the association between independent & dependent variable. Variables which showed significant association on bivariate analysis were fitted into multivariate logistic regression model. Strength of statistical association was measured using [AOR, 95%CI, $P \leq 0.05$]); the qualitative data was analyzed by sorting text and coding them into thematic and presents in narratives and triangulated with the quantitative data. Mean empathy scores, SD was calculated for 20 items of JSE. The 25th, 50th, and 75th percentiles of empathy were obtained.

RESULTS

Socio demographic characteristics

From total of 326 college midwifery student 6 participants were excluded from the present analyses because they didn't answer $\geq$ 4 questions from JSE-HP-SV. Thus our analytical sample was 320, with sample size of HHSC 174(54.4%), RVUCHB 104(32.5%) and EAHSC 42(13.1%), representing a total response rate of 98.16%. There was a good representation of students from each of the 3 years of educational levels; 38.8% from 1st yr, 36.9% from 2nd yr, and 24.4% from 3rd year of the colleges. From the overall participants, females were 224(70%) and majority 157(49.1%) were age between 20-24 years. More than two third were single 271(84.7%) and 33(10.3%) were married and 16(5%) cohabit with their partners, 223(69.7%) were living with their families and list 8 (2.5/%) were living in dormitory. The majority of the participants 298(93.1%) were graduated from government high school and 264(82.5%) were from urban residence.

Family history

Maternal educational level 103(32.2%) was between 1-8 grades, 129(40.3%) were housewife. Paternal educational level 116 (36.2%) was above 12 grade and 102 (31.9%) were government employees. Participants had $\geq$2 siblings accounts 252 (78.8%) among these 145(47.4%) participants were sandwich. Monthly income of the family < 86.2% was below 991 birr. About 138(43.1%) of participants developed major life experience (illness, divorce and death in their family) during childhood and 132(42.2%) of participants ever lost someone who had part in their life. Majority of participants 227(70.9%) were living with both their mother's and father's. 143(44.7%) expressed very well early life experience and 171(53.4%) had very good interaction with their families. Almost half 159(49.7%) spent time with their families more than 6 hrs within a day and 48(15%) were away from their families. 160 (50%) were felt secure to discus very personal issues for only one person and 0.3% didn't do so. 48(52.7%) used addictive substance occasionally and 18(19.8%) uses every day. 223 (72.5%) were admitted and/or visited OPD for medical care and 147(63.4%) of them were experience positive perception towards care they received from health professionals and 16(29.7%) of them felt negative.

Recreational and social life

125(39.1%) participants expressed their social interaction were very strong. 137(42.8%) were face book users. 166 (51.9%) didn't use internet and 99(30.9%) used internet less than 1 hour. Majority of them 137(42.8%) watched mostly romantic movies. 225 (79.7%) participants cried (feel sad) when they were watching sad movies or reading fictions. 257 (80.3%) of participants thought that they were religious and 113(35.3%) attended spiritual affiliation few days in a weak. 171 (53.4%) of participants were participated in social relationships (HIV and Youth club, Civic club). 125 (39.1%) expressed their living condition was very good. 106(32.2%) students were empathizes more for someone who were similar with them by culture; 103(32.2%)living condition; 123(38.4%) age; 105(32.8%)gender; and 108(33.8%) ethnicity.

Perceptions of teachers' way of teaching

274 (85.6%) respondents learned about empathy by their teachers. 297(92.8%) of the students were listened with concern when they asked question and 298(93.1%) teachers replied an answer for the students when asked. 170 (53.1%) teachers were concerned about their students' emotion, feeling and concern and 114(35.6%) of teachers were concerned about their students and students families and about 56(17.5%) asked students what happened in their daily life. 251 (81.6%) of students learned or and heard about empathy in classroom or and practical area.

Communication skills

198(61.9%) of students were learned about communication skill as part of their basic profession education and among them 119(37.2%) learned communication skill in Ethics subject and 48(15%) in ANC. About 169(52.8%) were learned empathy as a communication tool. 129 (40.3%) and 46(14.4%) were responded that empathy is verbal and non verbal communication, respectively.148 (46.2%) participated in communication skill training and 127(89.7%) of them got a chance to practice and got feedback on their performance. 119 (37.2%) students were evaluated by their instructors while they were communicated and gave nursing care for their clients and 126(39.4%) them observed empathy of health professional towards their clients in clinical setting.

Level of empathy

The empathy score ranges 50-140, over all mean score is 101.63 (SD $\pm$ 19.39) and half of participants 163 (50.9%) had high empathy. The mean item scores obtained in the study range (3.97SD $\pm$1.97 to 5.5SD $\pm$2.25) on the 7-point Likert

Table 1. Mean item scores of JSE in three midwifery college students in Hareri, 2012

No	Items of JSPE-HP-SV	M	SD
1	An important component of the relationship with my patients is my understanding of the emotional status of the patients and their families.	5.03	2.05
2	I try to understand what is going on in my patients' minds by paying attention to their nonverbal cues and body language.	5.16	1.95
3	I believe that empathy is an important therapeutic factor in maternal care.	5.5	1.97
4	Empathy is a therapeutic skill without which my success as a midwifery would be limited	5.16	2.03
5	My understanding of my patients' feelings gives them a sense of validation that is therapeutic in its own right.	5.42	1.92
6	My patients feel better when I understand their feelings	5.3	1.92
7	I consider understanding my patients' body language as important as verbal communication in midwifery- patient relationships.	5.19	1.87
8	I try to imagine myself in my patients' shoes when providing care to them.	5.25	1.96
9	I have a good sense of humor, which I think contributes to a better clinical outcome.	5.42	1.95
10	I try to think like my patients in order to render better care	5.15	2
11	Patient illness can only be cured by medical Rx, therefore; emotional (affectionate) ties to my patient cannot have a significant place in this endeavor.	5.2	2.1
12	Attentiveness to my patients' personal experiences does not influence treatment effectiveness(outcome)	5.12	1.98
13	I try not to pay attention to my patients' emotions in interviewing and history taking	3.97	2.25
14	I believe that emotion has no place in the treatment of maternal health problems	5.12	2
15	I do not allow myself to be influenced by strong emotional relationships between my patients and their family members	5.01	1.94
16	Understanding of how my patients and their families' feelings do not influence midwifery care.	5.15	1.9
17	I do not enjoy reading non midwifery literature or experiencing the arts	5.25	1.9
18	I consider asking patients personal lives is not helpful in understanding their physical complaints	5.15	1.93
19	It is difficult for me to view things from my patients' perspectives	4.61	1.95
20	Because people are different, it is almost impossible for me to see things from my patients' perspectives.	4.23	2.16

M= mean, SD= standard deviation

Table 2. Students Empathy score from three colleges (n=320) in Hareri, 2012

Interval	n=320	Percent
20-40	0	0
40-60	7	2.2
60-80	49	15.3
80-100	77	24.1
100-120	119	37.2
120-140	68	21.2
	"HP-S" version	
Mean	101.63	
SD	19.39	
Percentile		
25^{th}	85.25	
50^{th}(median)	102	
75^{th}	116	
Possible range	20-140	
Actual range	50-140	
	Female	
Mean	103.47	
SD	20.6	
	Male	
Mean	97.35	
SD	15.51	
	Perspective taking	
Possible range	10-70	
Actual range	25-70	
Mean	51-69	
SD	10.00	
OD	72.99%	
	Compassionate care	
Possible range	8-56	
Actual range	16-49	
Mean	36.02	
SD	7.68	
OD	64.32%	
	Standing in pt's shoes	
Possible range	2-14	
Actual range	3-14	
Mean	10.28	
SD	2.59	
OD	73.43%	

OD (standardized score)= mean÷ total score x 100%. M; mean; SD; standard deviation

Scale (SD range $\pm$ 1.97 to 2.25, mode value was 6 and 7 with 10 items each). The mean empathy of standing in patient shoes was 10.28 (SD $\pm$2.59) and mean for compassionate care was 51.09 (SD $\pm$ 10) and mean for perspective taking was 36.02 (SD $\pm$ 7.68). Each item loaded on the three domains as expected and with 43.7% of the total variance explained.

Factor 1 appears to reflect a "Perspective Taking" factor based on content of 10 items, explaining 16.4% of total item variance. Factor 2, which accounted 7.7% of variance, can be labeled "Compassionate Care" based on the content of 8 items. The remaining 2 items contributed 19.6% of variance and correspond to the original factor of "Standing in the Patient's

shoes". Of the three dimensions of empathy, "Standing in the Patient's Shoes" had the highest standardized score 73.43% whereas "Compassionate Care" "had the lowest standardized score, 64.32 (Table 2). Significance association was found in standing in patient shoe's in females than males (COR= 2.718), P=0.002. No significant different were found in age groups and educational level by these three classifications.

Comparison of Mean Empathy Scores

Background information about empathy and demographic characteristics Gender, age & educational level difference in empathy

From the total respondents 163(50.9%) had high empathy and 157 (49.1%) had low empathy. We compared the mean empathy score for 224 women and 96 men who reported their gender. There was statistical significant difference were found in empathy between female and male. The mean empathy for male (M = 97.35, SD ±15.51, N = 96, at 95% CI [100.76, 106.18]) was lower than that of women (M = 103.5, SD ± 20.6, N = 224, at 95% CI [94.21, 100.5]), t (318) = –2.92, P = 0.004. A 95% CI on the difference ranges between the two population means using a Student's t-test distribution with 318 df is (–10.25, -1.98), (Table 3) which indicates that there was significant evidence that gender produce different mean empathy and female students had higher empathy(103.47) ranges at 95%CI (100.76, 106.18) than male (97.35) rangers at 95%CI(94.21, 100.5).

About gender difference one 2nd yr female discussant from FGD said that females are mothers. We learn empathy from our mothers 1st. So as a MW we treat clients like our mother treated us.

Females are more likely have high empathy than male (COR=1.812, 95%CI [1.116, 2.944]). The higher empathy of male was 39(40.6%) P=0.007 was lower than that of high empathy of female 124 (55.4%) P=0.11. The higher level of empathy of males was less than that of the lower level of females' empathy level. Mean empathy scores for each educational level listed in descending order of magnitude. The highest mean empathy scored by 3rd year (M=104.13, SD±18.34), followed by 2nd year (M=101.91, SD±20.67) and 1st year (M=99.81, SD±18.74), the lowest mean were scored by 1st year. But, overall there was no statistical significance difference found between them. Only significant difference were found between 2ndand 3rd year male students P=0.04

Factors Affecting Empathy

Overall, 20 independent variables had association with high empathy High empathy had been related more likely with age COR= 4.799, 95% CI (1.288,17.876)*gender, COR= 1.812; 95% CI (1.116, 2.944), less likely with mother's and father's occupation COR= .248; 95% CI (.080, .769), and COR= .415; 95% CI (.199, .864) respectively, more likely with mother's and father's education COR= 2.333; 95% CI (1.151, 4.731) and COR= 2.007; 95% CI (1.036, 3.888) and COR= 1.987; 95% CI (1.031, 3.830)respectively. Less likely with interaction with family COR= 520; 95% CI (.277, .979), more likely with use of addictive substance use P= 0.05, COR= 1.620; 95% CI (1.000, 2.642), more likely with social interaction COR= 2.118; 95% CI (1.201, 3.734), more likely with type of movies watching COR=2.128; 95% CI (1.043, 4.343), more likely for whom you empathize more (culture, living condition, age, gender and ethnicity), more likely with teacher asking student daily life COR= 2.838; 95% CI (1.528, 5.272), less likely with hearing about empathy in practical or class room COR= .506;95% CI (.283 .905), less likely with type of course COR= 0.205; 95% CI (.054, .771), less likely with using empathy as communication tool COR= 244; 95% CI (.102, .583), more likely with those who practiced communication skill and got feedback COR= 1.579; CI (1.005,2.481) and more likely with care giver empathy towards their client COR= 1.855; 95% CI (1.177, 2.923).

Factors independently associated with high empathy based on gender

Based on gender, 18 for female and 4 independent variable for male had association with empathy in bivariate logistic regression. In the final multivariate model by gender, a number of factors were independently affects high empathy. High empathy with female student was associated with maternal educational level (AOR = 15.01), students who were asked their daily life by their teachers (AOR = 6.167), heard or learned about empathy in class room/ practical area (AOR = .049), but in male only educational level had significant association (AOR= 0.209).

DISCUSSION

The study revealed that the mean empathy of students increased from 1st year to 3rd year. 99.8, SD± 18.7 for 2nd year 101.9, SD± 20.7 and for 3rd year is 104.1 SD ± 18.3. No statistical significance difference was found between each educational level, but there is mean difference between them. This finding is similar in study done in Australia (Lisa McKenna *et al*., 2011). This is maybe simply a result of the participants enrolled in third year having a greater amount of life experience than those participants enrolled in first year or first year students would not have under-taken any midwifery clinical experience (Daniel Chen *et al*., 2007; Malcolm J Boyle *et al*., 2010) or due to a 'settling in' effect (Paula Nunes *et al*., 2011). A study done by Kutlu *et al*. showed that students self respect increases as the educational year goes on. An increase in the MW students' problem solving skills was discerned in the final year. So, in general, it can be said that all students developed skills of changing behavior, communication and attitude. This can be attributed both to their student life and to the psychological counseling services (Saba YALÇIN *et al*., 2008). The mean empathy scores obtained in our study were generally lower than those reported in the literature. The average empathy score of the participants in the study was 101.63 and SD ± 19.39 and students about 163 (50.9%) have high empathy and 157 (49.1%) have low empathy. The distribution was almost equal but it was lower than the average empathy score among other nurses evaluated using the same scale, ranging from 112 to 124, but a little bit closer to a study conducted in Taiwan (Jen-Che KUO *et al*., 2011). The possible reasons for this difference are probably attributable to the socio-cultural differences in communicative styles of peoples of Ethiopia compared with Westerners. Westerns improved their empathy level by teaching about empathy and communication skill in order to give good quality health care and to make client's satisfied (Jen-Che KUO *et al*., 2011). The findings of this study suggest that midwifery empathy is a multidimensional concept involving at least three components. The most important component is perspective

taking, compassionate care and standing in the patient's shoes, which are all important in patient-midwifery relationship. "Standing in the Patient's Shoes" had highest standardized score, 73.43% and significantly association with gender. Females were significantly different and had high empathy than male (COR= 2.718, 95% CI [1.444, 5.118]), P=0.002. This finding is in contrary to study done Taiwan '' stand in the patient's shoe's'' had list standardized score 65% of the study (Jen-Che KUO *et al*., 2011). This is may be midwifery students in Hareri were eager to support their clients deeply and due to socio-cultural differences. Female accounts 224 (70%) of which 124(55.4%), P=0.11 have high empathy and 100 (44.6%) have low empathy. Males accounts 96 (30%) of which 39(40.6%), P=0.007 have high empathy and 57(59.4%) have low empathy. In this study there was statistical significant on gender difference. Females were nearly 2 times more likely have high empathy than male with (COR=1.812, 95%CI [1.116, 2.944]), P=0.016. This finding is consistent with international studies (Paula Nunes *et al*., 2011) and result was supported with study done in Bangalore (Roopa and Joseph, 2007) and Boston University School of Medicine in 2006 (Daniel Chen *et al*., 2007). The differences in JSPE-SV scores in other study by gender, female students have high empathy than male students (116.5 vs. 112.1, P < .001), but the mean empathy of female was 103.47 (SD $\pm$ 20.6) and of male 97.35 (SD $\pm$15.51) which is quite smaller than other studies (Roopa and Joseph, 2007; Daniel Chen *et al*., 2007; Kathy A.Stepien and Amy Baernstein, 2006). Where this dissimilarity is thought to be due to factors such as differences in socialization, a gender-genetic difference, or a preference of females to self report empathic behavior (Paula Nunes *et al*., 2011), and due to different set up and developed teaching curriculum to improve students empathy and communication skill and practicing simulation theories as well communication skill, and by advocating personalization and provocation exercise listening to a guest speaker with a mental illness, and experiencing in class disclosures of personal issues and challenges from fellow students reading novels/fictions and by giving empathy work shop, assessing students before entering to the profession and continue their level of empathy through education and by minimizing learning environment stressors. Females far outnumbered males in our study population and this parallels the trend of increasing numbers of females pursuing tertiary education in Ethiopia and internationally.

About gender difference one male discussant from FGD said that in contrary to the study findings, there is gender difference in empathy. Males are accepted by laboring mother than females.

Many factors were found in this study which affects midwifery students 'empathy. The study showed high empathy was significantly lower in those students who came from farming family than those working in government. This finding is supported with a study done in College of Nursing at a religiously affiliated Midwestern university (Christopher Stephanie, 2010). Those professionals who had risen in socioeconomic status from childhood were more likely to give control to patients who sought it and also in Turkey Ankara University study showed that if compatibility between spouses was low and interaction between mother, father and child (students) was not healthy, it will lead children's (students) evaluations of themselves as negative. Individuals first take the mother and the father as models in the lifelong process of socialization. Later on they interact with close friends and other individuals in their close environment (Saba YALÇIN *et al*., 2008). But in this study farmer families may not explain their life experience to their children or due to cultural barrier to discuss elderly with children about family life experience in rural population. Parental educational level also significantly had effect on student's empathy and it was found that parent's education was important in the development of students' empathy. Mother learned 9-12 grade accounts 70(21.9%) and > 12 grade were 72(22.5%) have higher empathy than those illiterate mothers which accounts 75(23.4%) as well father educational level accounts 116(36.2%) were learned > 12 grade were significantly have higher empathy than those illiterate family students which accounts 45(31.9%). These distributions of educational level of families were quite different in study done in Ankara University (Saba YALÇIN *et al*., 2008). This is maybe those educated families share their life experience to their children and discuss about their daily life than those illiterate one.

On family educational level one 2st year female discussant in FGD said that, knowledge is a key to everything. So it has an effect on children behavior.

In the current study students who were expressing their early parental love not bad had significantly higher empathy than those who have very bad interaction with their families. Simon Baron-Cohen professor of developmental psychopathology at the University of Cambridge discovered on why some people have more or less of this vital resource. The answer includes both early experience (parental love and affection) as well as our prenatal biology (hormones & genes) (Ruth McCaffrey *et al*., 2011). Similarly a study conducted in Ankara University showed that nursing students generally stated that their families valued them and gave them support. This situation may lead to positive interaction. Students who are accepted by their families, and who had self confidence were also more successful in the implementation of active listening and building empathy in interpersonal relationships (Saba YALÇIN *et al*., 2008). As well study conducted in Turkey also showed that it is known that parents' empathic skill are very important in improvement of children's empathic skill. It is proposed that children's from low empathic skills have low level of empathy. Taking parents as role models affects children's capacity of reaction to others (Yasemin Ozkan *et al*.,). In the current study the mean empathy for those who used addictive substance were 96.43 (SD$\pm$ 19.32) and those who didn't were 103.73 (SD $\pm$ 19.07). Although those who use substance has lower empathy than those who didn't, this finding is similar with study done in Australia, Monash University (Lisa McKenna *et al*., 2011), this is may be due to that substances affects and depresses brain part which has significant effect on empathy center which initiates empathy.

About 85 (26.6%) of students had strong social interaction. This is similar with study conducted in U.S. Empathy is more likely to occur between individuals whose interaction is more frequent (Lamm *et al*., 2007). Iincreasing in social isolation, which has coincided with the drop in empathy (Simon Baron-Cohen, 2011). Empathy is important in arranging relations of friendship. Since empathic children are more prone to display pro-social (a positive social behavior described as considering especially others) behavior like cooperation, helping etc. compared to the one with low empathic skills. So it is more likely that children with pro-social behavior have better social and emotional health while being in concord with their friends

(Yasemin Ozkan *et al*.,). About 137 (42.8) student mostly watched romantic movie. The study showed significantly high empathy with those who used to watch romantic movie than those who watched violence movie. This study was similar with study done in University of Michigan (Empathy: College Students Don't Have as Much as They Used To, Study Finds, 2010). This may be exposure to violent media numbs people to the pain of others. Significant difference was found in high empathy in student who was asked by their teacher about their daily life than didn't ask. This may be due to teachers understanding the central concepts, tools of inquiry and structures of the disciplines he/ she teaches and can create learning experiences that make these aspects of subject matter meaningful for students. This study was similar with a study done in UK Metropolitan University (BRIDGET COOPER, 2004), which showed that the degree of empathy shown by the teacher affects the degree of empathy show by the student and the student's ability to share with and learn from others. This may be due to many factors or constrains like classsize, time, curriculum, policy, environment and management that impinge teachers' moral model or behavior which prevents them to treat students in a profoundly empathetic way.

One female 3rd year discussant in FGD said that, if my teacher teaches me in empathetic way, I will learn ethics and empathy from him. This helps me to be a good person for myself and for my clients.

One 1st year discussant in FGD said that, teacher means the pillar of the building. So from my teacher's I can learn two things. First, knowledge and second ethics and empathic (behavior)

Learning in class or hearing in practice area about empathy two times more likely to have high empathy than didn't learn or heard empathy in classroom and practice area from their teachers. This may be due to teachers shared challenges they faced in their life experience to the students in order to make students responsible person for their clients. Respondents who have learned Health assessment accounts 14 (4.4%) were less likely to have high empathy than those who have learned BNA and ANC 40(61.5%). This may be due to more time is given for practicing BNA and ANC procedure in addition to theory. This helps students to cop up and give good MW care for their client and to make them ready for COC. Learning about communication skill as midwifery education and informed about empathy as a communication tool were more likely to have higher empathy than the others. This is may be students understanding about the effect of their non-verbal and verbal communication to their client. This finding is similar with the study conducted in Taiwan, the growing emphasis on improvement of health-care quality and patient-centered care, communication between health-care providers and patients has become a matter of great concern in health-care service, the key to improving communication in health-care service is empathy (Ruth McCaffrey *et al*., 2011). Study done in University of Washington School of Medicine, Seattle, WA, USA showed six of the 13 studies focused on the behavioral dimension of empathy, approaching empathy as a communication technique. By giving communication skill workshops using lectures, small group work-shops, audiotapes, or videotapes to teach communication skills intended to convey empathy and in order to address the behavioral dimension of empathy. This showed greatest quantitative impact on participants. (Kathy A.Stepien, 2006)

One female discussant in FGD said, if we learn empathy as one course, we will be able to see and understand the non-verbal communication of the mother by looking their eyes.

Seeing empathy of the staffs towards their client during practical attachment was more likely to have higher empathy than those who didn't see. This is similar with study done in Armstrong Atlantic State University Savannah, Georgia showed that Clinical learning experiences has impact on empathy (Pamela L. Mahan, 2011).

In contrary with the above idea one male 3rd year discussant on FGD said that, at this time for me it is difficult to say that there is a good midwife or nurse found in heath institutions. Their way of communication was very poor. This is maybe they didn't know or forgot about what they have been learned.

Conclusion

The results of the study showed that almost half of the participants had high empathy. First year students had lower level of empathy compared to their seniors. Gender has a significant association with having empathy such that females are more empathetic than males. Being from farming family decreased high level of empathy. Father's and maternal educational level increased level of empathy. Students' had not bad interaction with their family in early life were less likely to have high empathy as compared to those having very strong interaction. The other obstacle for students not to have high empathy was watching violence movies. Those did not use addictive substance, age between 20-24, who empathize without considering their client's culture, living condition, age, gender and ethnicity, asked about their daily life by their teachers, who learned/ heard about empathy in classroom and practical area and who have learned about empathy as a communication skill were more likely to have high empathy. Learning ethics have effect to have high empathy. Students who learned health assessment and who had very weak social interaction were less likely to have high empathy. Seeing staffs empathy towards their client during practical attachments has an impact on students to have high empathy. In general low empathy was associated with less family interaction, poor teacher's way of teaching and teachers communication skill with their students, poor personal life experience, use of addictive substances and weak social interaction.

Recommendation

Proper emphasis should be given for empathy because half of the participants had low empathy for their clients. This decreases quality of midwifery care, If the condition continues like this most of clients (mothers) will not get proper midwifery care and this leads to poor clients' satisfaction. Indirectly also has effect on maternal mortality. So that the following recommendation will be forwarded to

- The decline in empathy scores during the first year of training is in part due to a 'settling in' effect. The study we have conducted highlights that empathy levels are dropping as early as the first year of training. So it is important to give as a preliminary study of empathy and to introduce training in empathic skills for all midwifery students at the beginning of, and throughout,

their training. This finding therefore provides healthcare administrators and colleges to identify practitioners with lower levels of empathy and implement effective interventions to increase student's capacity for empathy and an evidence to support the premise that training in empathy is important for midwifery students.

- Ministry of education and health should have to give priority for female to join people oriented professions like nursing and midwifery. The higher levels of empathy in a female might lead her to please or appease. Women seek to achieve consensus and closeness. This is because females' empathy was statistically significant and higher than male students. This enhances the millennium goal by empowering women and minimizing MMR
- Implications for practice explore the utility of empathy instruments in nurse and midwifery education, such as empathy progression through curriculum. As nursing educators, the utility of development of instruments to measure effectiveness of teaching strategies and pedagogy for empathy enhancement in practice is important.
- Harari Regional Health Bureau should have to give attention and examine student's empathy during entry of midwifery and nursing profession and should have to follow throughout their educational level.
- Colleges should have to have small group teaching which is naturally more likely to produce profound empathy than large classes.
- These studies focused on the behavioral dimension of empathy, so health colleges should have to design ways of approaching empathy as a communication technique. By using lectures, small group work-shops, audiotapes, or videotapes, advise to teach communication skills and intended to convey empathy.
- Health colleges should have to give and teach communication skill as one subject because effective communication is a corner stone of successful collaboration for patient care. Skilled communication focuses on critical communication proficiencies including self-awareness, inquiry/dialogue, conflict management, negotiation, and advocacy and listening. Before effective communication can take place an understanding of the basic components of communication must be understood.
- In addition, colleges should have to teach empathy from experiential learning (simulating exercise).Directed to an intervention in which healthy preclinical nursing, midwifery students should be admitted to a teaching hospital with fake diagnoses and by giving them C/C and remaining hospitalized for 24 to 30 hours. The residents caring for them believed they were real patients. Students reported confidence that this experience would help them to be more empathetic toward clients. Enhancing empathy by focusing on empathy in teaching, empathy training programme consisting of self-directed study, regular meetings with a supervisor, workshop, supervised clinical work, and the use of the JSEHP-SV empathy measure. Provision of training should be given in listening, observing, reflecting, attention to nonverbal cues, using body language and tone of voice, etc. and assessments with self-reports as well as with external observer ratings show improvements in empathy with directed education.
- The kind of work and behavior the teacher did with his/her students are essential in creating a better country and helping those constructs activities that expanded their horizons. People are so universally able to be empathetic, but empathy needs to be at the core of school curriculum.

1. Teachers should have to teach empathy through profound in one-to-one relationships and showing and providing precisely the right climate in which students learn most effectively and also should have to give especial attention for those students who came from farming family and merchants. As well they have to awareness of their impact
2. Advice students not to use addictive substance especially for females and its effect on health and their behavior, teach empathy in each lesson. Foster environments where students are not isolated with overwhelming feeling, not exhausted, and treated with respect and concern. More time for teaching and seeing patients with their students and residents. Making the implicit, explicit- why did you do what you did in that brief, bedside exchange?
3. To this end, the traditional lecture method of teaching should be adapted to emphasize a more experimental learning style, in which student midwifes participate in real-life scenarios that give them opportunities to practice appropriate verbal and nonverbal (e.g., speech, nodding, eye contact, physical contact) communication. This process may help student midwifes learn to view situations from a client's perspective and thus increase their psychological understanding of the clients.
4. Teaching aids, class scheduling, use of small-class instruction for 4 hours per day for 5 days to teach midwifery students about the concept of empathy; are important factors for learning performance. Additionally, music and film appreciation might be included in the educational program to help students learn how to better recognize the feelings of others by means of their speaking tone, facial expressions, and bodily movements.

- At last we recommended that further study should be done in order to know to which particular empathy do students mostly adhered to and its association factors and gender difference in empathy in midwifery and nursing students in order to find out other factors that affect empathy.

Limitation of the study

- By virtue, this study is expected to be prone for the limitation of cross sectional Survey (temporal relationship)
- Rarity of long-term assessment for durability of effect.
- Reliance on self-assessment rather than observational measures of empathy.

Competing interests

We declare that there are no conflicts of interest to disclose.

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