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# Outcome of Communicative Competence in a 2-day Communication Skills Training for Nursing and Midwifery Students - A Randomized Controlled Trial

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## Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

### Article Information

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Original Research Article

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### ABSTRACT

**Aims:** To compare the outcome of empathy of a 2-day communication skills training (CST) in an intervention and a control group of nursing and midwifery students in a randomized controlled trial.

Study Design: A pre-test post-test design study in a randomized control trial was used.

**Place and Duration of Study:** Tamale Nursing and Midwifery College, Ghana. Baseline data was collected at the end of August 2014. Six-month follow-up took place in early March 2015.

**Methodology:** In all 230 participants were eligible. They were made up of nursing (n = 181) and midwifery (n = 49) students from Tamale Nurses and Midwives College in Tamale, Ghana. A sample of 210 (nursing 104 = and midwifery = 106) were randomized into an intervention and a control group. Both groups had a 2-day CST each at different times. Both groups had a baseline test (T1) at the same time. The intervention group had a CST, followed by post-test (T2) on day 3. The control group had post-test (T2) on day 4 just before their CST. The outcome was communicative competence measured with communicative competence questionnaire. Both groups had a follow-up test (T3) at the same time, six months after the CST. All data were analysed using SPSS.

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**Results:** The results showed there was no statistically significant difference in the scores of communicative competence between the intervention and the control group [F(1, 171) = 1.53, P = .218].

**Conclusion:** In this study there was no evidence that communicative competence can be enhance following a 2-day communication skills training.

Keywords: Communication competence; communication; skills; nurses; midwives.

## **1. INTRODUCTION**

The use of an effective communication in health delivery underpins the practice and delivery of quality health. It is important that nurses and midwives are able to communicate effectively with patients such that they can provide the needed services that are well understood [1]. Research has it that there is a need for effective communication by nurses and midwives in health delivery [2]. Researchers have demonstrated how effective communication leads to better health consequences [3,4] and it is also critical to health delivery [5].

The field of medicine has always been achieved through an effective communication with patients throughout history [6]. The skill of communication is said to be innate but can also be acquired through experience [7]. Therefore, training in effective communication has been given prominence in all health professions [8–11].

Ineffective communication, on the other hand, may result in an increased frequency of medical errors, stress, tasks difficulties, delays in pain control, and may reduce quality of patient care [9]. It is for these reasons, effective communication has been part of nursing and midwifery training [10].

Effective communication skills enable nurses and midwives to get to know their patient and, ultimately, to diagnose and to meet patients' need for healthcare. Many experienced nurses and midwives identify the quality of their interpersonal relationships as a significant portion of determining their helper effectiveness Studies have shown [11]. practical communication is better than the use of discussion [12,13]. Some researchers have indicated that simulations [14-16] and role-play [17-20] are effective instructional methods for developing communication skills including opening and closing consultations, conducting the consultation in a logical manner, improving body language, using language at the level of understanding of the patient, and using clear

verbal and written communication. A number of studies have used objective structured clinical exams (OSCE) where a marking scheme is used to evaluate different components of communication whilst ensuring a more standardised assessment for all students [21–24].

Human communication is a complex process that involves the exchange of ideas, thoughts and feelings, and people communicate continuously through verbal and nonverbal means [25]. It is important that nurses appreciate the importance of effective communication in nursing practice, especially in relation to its purpose and function in their interaction with patients. Communicative competence is an important element in the way nurses and midwives are able to pass on information to patients.

Effective communication in nursing and midwifery practice involves the ability to understand patients' experiences of health and diseases and to convey meaningful information to patients that promotes their well-being. It also provides patients the opportunity to participate in their care to the extent that they wish. This means that nursing communication in healthcare is focused mostly on the patient's well-being. Patients' needs therefore must drive midwifery and nursing communication [25].

This study sought to compare the outcome of communicative competence of a 2-day communication skills training (CST) in an intervention and a control group of nursing and midwifery students in a randomized controlled trial (RCT).

### 2. METHODOLOGY

#### 2.1 Design and Sample

This study was a pre-test post-test design in a randomized controlled trial (RCT) to compare the outcomes of a 2-day CST programme on two groups of second year students. In all 230 participants were eligible. They were made up of

nursing (n = 181) and midwifery (n = 49) students from Tamale Nurses and Midwives College in Tamale, Ghana. A sample of 210 (nursing 104 = and midwifery = 106) were randomized into an intervention and a control group.

#### 2.1.1 Power

The sample size of the participants was based upon a power analysis. Relationship have been shown between training interventions and improved communication skills, measured with Roter Interaction Analysis System (RIAS), with an effect size between medium and high [26]. Fixing the effect size medium (d = 0.25), using a two-tail significance test (P = 0.05), a sample size of 197 will result in an acceptable power coefficient of 0.95 [27].

#### 2.1.2 Inclusion and exclusion criteria

Nursing and midwifery students in their second year of studies at the Tamale Nurses and Midwifery College (TNMC), Tamale-Ghana were eligible to take part in this intervention study (Table 1).

#### 2.1.3 Ethical approval and informed consent

Ghana Health Service in Tamale and Tamale Teaching Hospital, granted ethical approval for this study. Written informed consent was obtained from each student before her or his participation. Participants were informed that they could decline to participate or can withdraw at any time without detriment to their studies in the college.

### 2.2 Outcome Measure

Communicative competence questionnaire [28] which was used had the domains of general

competence, empathy affiliation/support, behavioral flexibility, and social relaxation. Wiemann [28] created the communicative competence questionnaire to measure communicative competence. Subjects use the communicative competence questionnaire to another person's communicative assess competence by responding to 36 items using Likert questionnaire that ranges from strongly agree (5) to strongly disagree (1).

#### 2.2.1 Scoring

In dealing with incomplete and missing data, a respondent must answer at least 80% of all items; otherwise, the questionnaire was regarded as incomplete and excluded from the data analysis. If a respondent fails to answer 20% or fewer items, the missing values would be replaced with the mean score calculated from the items the respondent completed. The total score is the sum of all item scores. The maximum total score for each participant was 180 and the minimum score was 36. Higher total scores indicated higher communicative competence whereas lower total scores indicated lower communicative competence.

### 2.3 Procedure

This study involved both nursing and midwifery students in the second year of studies at Tamale Nursing and Midwifery College, Tamale, Ghana. Participants were randomly assigned to either an intervention or a control group. The nursing and midwifery students were separated before they were randomly assigned to ensure that both professions were approximately equally represented in the intervention group and the control group.

Table 1.	Inclusion	and	exclusion	criteria
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Inclusio	on criteria
٠	Nursing and midwifery students in their second year at TNMC.
•	Nursing and midwifery students whose ages were above 18 years
•	Nursing and midwifery students in TNMC who would be available for follow-up data
	collection after 6 months.
Exclusi	on criteria
•	Nursing and midwifery students who were not studying at TNMC.
•	Nursing and midwifery students whose ages were below 18 years
•	Nursing and midwifery students in TNMC who would not be available for follow-up data
	collection after 6 months.

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Both groups had a baseline data collection (T1) at the same time. The intervention group had a CST, followed by post-test (T2) on day 3. The control group had post-test (T2) on day 4 just CST. before their The outcome was communicative competence measured with communication competence questionnaire. Both groups had a follow-up test (T3) at the same time six months after the CST (Fig. 1).

#### 2.4 Communication Skills Training

Researchers agree that effective communication enhances quality health delivery [29–31]. Fisher [32] have reported an improvement communication skills nurses and midwives with the use of Four Habits Model.



#### Legend:

- CST = Communication skills training
- T1 = Baseline test
- T2 = Post-test
- T3 = Follow-up test

Fig. 1. Flowchart showing enrolment, randomization, CST, and data collection

The main topics of the CST based on the Four Habits Model are:

- (i) Invest in the beginning of the encounter to create rapport and set an agenda.
- (ii) Elicit patients' perspective.
- (iii) Demonstrate empathy to provide opportunity for patients to express emotional concerns.
- (iv) Invest in the end to provide information and closure.

Trainers during the training process informed participants of the need to provide holistic healthcare, working with patients beliefs and values, engagement, shared decision, and having sympathetic presence as provided by McCormack and McCance [33].

The researcher (Mustapha Alhassan) who was the main trainer designed and developed the training guide using the Four Habits Model and Person-Centred Nursing Framework bv McCormack and McCance [33]. Subsequently, the researcher trained a co-trainer (Ahmed Abdul-Majeed) to assist in the CST as well as in the data collection. The trainers used various methods to deliver the training. The methods were small group discussions, brainstorming, personal experience from participants, group reports, questions and answers, videos and summaries. Therefore, the training was based on shared agenda. This approach makes it possible for participants to share their previous training knowledge and ideas. At the end of the training participants were provided with photocopies of some relevant material as well as reference books and literature that will be useful for nurses and midwives to have effective communication with patients.

### 3. RESULTS

#### 3.1 Demographic Information

Demographic data in this study were age, gender, specialty (nursing or midwifery), marital status, number of children, ethnicity, and academic writing and communication. A total of 173 participants data were analysed from the intervention and control groups. Table 1 displays the demographic characteristics of the participants. The age distribution showed most students were in the age range of 19 to 30 years (n = 160, 92.5%). There were no students whose

ages were below 18 year and above 31 years (Table 2).

In terms of gender the percentage of female nursing and midwifery students (n = 112; 64.74%) were more than the male nursing and midwifery students (n = 61; 35.26%) and most of the participants were in the nursing specialty (n = 131; 75.72%) as compared to the midwifery specialty (n = 42: 24.28%) (Table 2). The results also showed that most of the students were unmarried (n = 160; 92.49%) as compared to those who were married (n = 13;7.51) (Table 1). The results further showed that a greater majority (n = 127; 73.41%) had 4 months semester) of academic writing and (1 communication (AWC) as compared to those who had no AWC (n = 23; 13.29%), 2 weeks AWC (n = 1; 0.58%), 1 month AWC (n = 1; 0.58%), 2 months AWC (n = 1; 0.58%), 3 months AWC (n = 5; 2.89%), 2 semester AWC (n = 11; 6.36%). 3 semesters AWC (n = 3; 1.73%), and above 4 semesters AWC (n = 1; 0.58%) (Table 2).

#### 3.2 Descriptive Statistics of Communicative Competence

The results showed no changes in the intervention group from baseline - T1 (M = 131.90; SD = 11.29) to post-test - T2 (M = 132.25; SD = 11.15) and the control group from baseline - T1 (M = 133.64; SD = 12.89); to posttest- T2 (M = 133.65; SD = 12.89). However, there were slight increases in the intervention from baseline -T2 (M = 131.90; SD = 11.29) to follow-up after 6 months - T3 (M = 132.86; SD = 11.07) and the control group baseline -T2 (M = 133.65; SD = 12.89) to followup after 6 months - T3 (M = 134.80; SD = 10.98) (Table 3).

The results further showed there was no statistically significant difference in the scores of communicative competence between the intervention and the control group [F(1, 171) = 1.53, P = .218] (Table 4).

In this study there was no statistically significant effect between CST, the scores of communicative competence and the demographic variables of gender, age, marital status, specialisation, AWC, ethnicity, and religion (Table 5).

Characteristics		Inte	ervention group	Control group	
			(n = 93)		(n = 80)
		<u>n</u>	<u>%</u>	n	<u>%</u>
Age	> 18 years	5	5.38	1	1.25
		42	40.10	32	40.00
	22 – 24 years	41	44.09	45 1	00.20 1.25
	23 - 27 years	2	2.10	1	1.25
	20 - 30 years	0	5.25 0	0	1.25
Conder	Ecomolo	68	73 12	44	55.00
Genuer	Male	25	26.88	36	45.00
Speciality	Nursing student	62	66 67	69	86.25
opeolaity	Midwifery students	31	33 33	11	13 75
Marital Status	Married	2	2 15	9	11 25
Marital Otatao	Unmarried	90	96.77	70	87.50
	Divorced	1	1.08	1	1.25
Religion	Christianity	51	54.84	30	37.50
. tengren	Islam	40	43.01	48	60.00
	Other	2	2.15	2	2.50
Do you have children	Yes	1	1.08	8	10.00
, ,	No	92	98.92	72	90.00
Number of children	No child	92	98.92	72	90.00
	1 child	1	1.08	2	2.50
	2 children	0	0	4	5.00
	3 children	0	0	2	2.50
	4 children and above	0	0	0	0
Ethnicity	Akan	11	11.83	5	6.25
	Dagomba	28	30.11	34	42.50
	Ewe	2	2.15	5	6.25
	Fanti	6	6.45	3	3.75
	Frafra (Grunsi)	10	10.75	2	2.50
	Ga-Adangme	3	3.23	0	-
	Gonja	8	8.60	3	3.75
	Kotokoli	0	0	3	3.75
	Basare/Bisa	0	0	2	2.50
	Kasina/Bulsa	0	0	3	3.75
	Dagati/Sisala	5	5.38	4	5.00
Acadomic writing and	Other tribes	20	21.51	10	20.00
Academic whiling and	Nono	10	10.75	12	16.25
		0	0.75	0	10.25
(AWC)	2 weeks	0	0	1	1 25
	2 weeks	0	0	0	0
	1 month	1	1 08	0	0
	2 months	0	0	1	1 25
	3 months	3	3.23	2	2.50
	4 moths (1 semester)	70	75.27	_ 57	71.25
	2 semesters	5	5.38	6	7.50
	3 semesters	3	3.23	Ō	0
	4 Semesters	0	0	0	0
	Above 4 semesters	1	1.08	0	0

## Table 2. Demographic data for this intervention study

*n* = sample size in a group; AWC = academic writing and communication

Time	Group	Ν	М	SD	SE	Min.	Max.
	Control	80	133.64	12.870	1.439	99	156
Post-test (T2)	Intervention	93	132.25	11.152	1.156	104	160
	Control	80	133.65	12.889	1.441	99	156
Follow-up test (T3)	Intervention	93	132.86	11.065	1.147	99	153
• • • •	Control	80	134.80	10.981	1.228	107	169

#### Table 3. Descriptive statistics of communicative competence

N = total sample size; M = mean score; n = sample size in a particular group SD = standard deviation; Min. = minimum; Max. = maximum

#### Table 4. Inferential statistics communicative competence

Source	Type III SS	df	MS	F	Р
Intercept	9153895.28	1	9153895.28	37878.68	.000
Group	369.47	1	369.47	1.53	.218
Error	41324.46	171	241.66		

\* Significance level P = .05; SS = Sum of Squares; df = degrees of freedom; MS = Mean Squares; F = Statistic; P = Significance level

# Table 5. Effect of the CST, the scores of communication competence, and the demographic variables

Source	Type III SS	df	MS	F	Р
Intercept	54,905.07	1	54,905.07	224.49	.000
Group x Gender	157.40	2	78.70	0.32	.725
Group x Age	623.71	2	311.85	1.28	.282
Group x Marital Status	92.64	2	46.32	0.19	.828
Group x Specialisation	294.02	2	147.01	0.60	.549
Group x Religion	402.69	2	201.35	0.82	.441
Group x Ethnicity	341.46	2	170.73	0.70	.499
Group x AWC	179.75	2	89.88	0.37	.693
Error	38.643.49	158	244.58		

\* Significance level *P* < .05; SS = Sum of Squares; df = degrees of freedom; MS = Mean Squares; *F* = Statistic; *P* = Significance level

## 4. DISCUSSION

Communicative competence questionnaire [28] which was used had the domains of general competence, empathy affiliation/support, behavioral flexibility, and social relaxation.

The findings in this study showed no improvement in the communicative competence between the intervention and the control group. This is in contrast to the findings by Park et al. [34] who conducted a study to determine the relationships among individual communication competence, self-efficacy, and job satisfaction in Korean nurses in an emergency medical center. They found the relationship between communication competence and self-efficacy were strong. This can be explained with the reason that generally people who have high selfefficacy turn to be confident in whatever they are doing including their communication competence.

This study contradicts findings from McLaughlin and Cody [35] where they reported that people in conversations in which there were multiple lapses of time rated each other lower on communicative competence.

One study found a relationship existed between communication competence and communication adaptability [36], and interpersonal communication apprehension [37]. As earlier indicated when people continue to practice whatever they are doing they become confident and with time are able to improve upon it.

Also, Street et al. [38] found that people in conversations, speech rate, vocal back channeling, duration of speech, and rate of

interruption were related to their communicative competence scores; they also found that people in conversations rated their partners significantly more favorably than did observers. This could be because generally people easily understand each other better when they live together.

Douglas [39] testified an inverse relationships between communicative competence and uncertainty and apprehension during initial meetings. Query et al. [40] also found that nontraditional students, those high in communicative competence, had more social supports and were more satisfied with these supports. This can be explained by reason that social support usually has a moderating role in communication competence.

## 5. CONCLUSION

The findings in this study showed no improvement in the communicative competence between the intervention and the control group. Enhancing communication competence may require that after the skills training students are given the opportunity to practice before an evaluation. This study only examined the impact of the CST 6-months post-training, possibly researchers should consider a longer-term follow-up to determine the effectiveness of the communication skills training. In addition, CST in a multi-location can be beneficial.

### CONSENT

The author declares that 'written informed consent was obtained from the patient (or other approved parties) for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editorial office/Chief Editor/Editorial Board members of this journal."

### ETHICAL APPROVAL

The authors declare that all experiments have been examined and approved by the appropriate ethics committee (The Research and Monitoring Department of Tamale Teaching Hospital, Tamale – Ghana, approval number is TTH/R6M/SR/13/12) and have therefore been performed in accordance with the ethical standards laid down in the 1964 declaration of Helsinki."

## COMPETING INTERESTS

Author has declared that no competing interests exist.

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## APPENDIX

## Communication skills training (CST) guide

Researcher as Trainer- Mustapha Alhassan (MA)

Research assistant as co-trainer - Mr. Ahmed Abdul-Majeed (AAM)

Objectives:							
To train nursing and midwifery students to acquire communication skills that would be relevant to enhance their empathy, communicative competence, communication skills attitude, and self-efficacy.							
The training will focus on the Four Habits model by Kaiser Permanente Groups and Person- Centred Nursing Framework McCormack and McCance.							
Core topics: <ol> <li>Invest in the beginning</li> <li>Elicit patients perspective</li> <li>Demonstrate empathy</li> <li>Invest in the end</li> </ol>							

## Day 1 Activities

Morning session

(8.00 to 12.00 Hours)

Activity	Steps	Time	Minutes
	Introduction	8:00	120
re	i. Introduce the Trainers/Moderators		
	ii. Trainer explains the purpose of the training. Giving participants		
un de la compañía de	assurance of confidentiality, anonymity etc.		
E N	<ol><li>Allow prospective participants to ask questions.</li></ol>		
tio fe	iv. Obtain informed consent from participants.		
s th	Session break	10.00	10
b t d	Pre-test (T1)	10.10	110
st	i. Distribute pre-test questionnaires to participants who have consented		
220	ii. Wait until all have submitted their responses to the questionnaires		
	Lunch Break	12.00	60

#### Afternoon session

## (13.00 to 17.00 hours)

Activity	Steps	Time	Minutes
sd	<ol> <li>Trainers out cards for each participant to write out their expectations about the training which they would undergo.</li> </ol>	13.00	5
no	ii. Allow participants to put the expectations on a flip chart provided.	13.05	115
ອັ	Session break	15.00	10
Randomization of	<ul> <li>iii. Randomize the group into two groups. Have pieces of paper written with number 1 and 2 on each according to their total number. After distributing the papers randomly put the number ones together and twos together.</li> <li>iv. Those with number one then become intervention group and those with number 2 become control group.</li> <li>v. Inform them that due to their number the intervention group would be trained first (the next day) followed immediately by the control group (on the third day).</li> </ul>	15.10	110
	Close	17.00	

# Day 2 Activities

## Morning session

## (8.00 to 12.00 Hours)

Activity	Steps	Time	Minutes
	i. Trainer makes a short presentation on Four Habits Model.	8:00	5
<u>b</u>	<ol><li>Trainers put the participants into 10 in a group.</li></ol>	8.05	115
Jir	iii. Participants go into a plenary session where they discuss why they think		
<u>i</u>	it is important to Invest in the beginning. They should appoint a		
6e d	chairperson and a reporter (30 minutes)		
a a	Session Break	10.00	10
÷	i. Each group should be given 5 minutes to report their group results.	10.10	50
<u>.</u>	ii. Whist they report the research and research assistant should create a		
st	tally of the points each group has raised on a flip chart		
٩٨L	iii. Trainer then makes a short presentation on investing in the beginning	11.00	10
-	based on the Four Habits Model.		
	iv. Allow open discussion	10.10	50
	Lunch Break	12.00	60

#### Afternoon session

## (13.00 to 17.00 hours)

Activity	Steps	Time	Minutes
	<ul> <li>Short discussion on what participants learnt in the morning about investing in the beginning</li> </ul>	13.00	15
	ii. Each participant should be provided with card where they list the most important issues to consider when eliciting a patients perspective.		
e lts	Session break	15.00	10
Elicit patier perspective	<li>iii. Ask a volunteer to come forward with his/her presentation. After that he/she would select the next presenter until all have had their turns to present.</li>	15.10	140
	iv. Trainer then makes a short presentation on the main issues according to the Four Habits Model.	16:50	10
	Close	17.00	

## Day 3 Activities

## Morning session

# (8.00 am to 12.00 noon)

Activity	Steps	Time	Minutes
٧	<ol> <li>Small Group Discussion: Trainers put them into small groups to brainstorm about the situations in which a professional nurse should show empathy.</li> </ol>	8.00	60
ath	Session break	10.00	10
tte Emp	ii. Trainers ask a volunteer to come forward with her/his presentation. After that she/he would select the next presenter until all have had their turns to present.	10:10	30
nstra	iii. Show a video on empathy and how it can be demonstrated towards patients.	10:40	10
Demo	iv. Trainers allow open discussion with participants suggesting the differences between empathy and sympathy.	10:50	60
-	v. Trainer then makes a short presentation on the main issues of demonstrating empathy according to the Four Habits Model.	11.50	10
	Lunch Break		60

#### Afternoon session

(13.00 to 17.00 hours)

Activity	Steps	Time	Minutes
nvest in the end	i. Participants are asked to mention important issues that are relevant in investing at the end. Trainer lists the issues as participants mention them on a flip chart.	13.00	60
	<ul> <li>ii. Trainers with the assistance of participants group the lists according:         <ul> <li>Delivering diagnostic information</li> <li>Providing information</li> <li>Involving the patient in making decision</li> <li>completing the visit</li> </ul> </li> </ul>	14.00	60
	Session break	15.00	10
-	iii. Trainer makes a short presentation on the relevant issues of investing in the end according to the Four Habits Model.	15.10	10
	iv. Trainers uses discussion method for summarising the training	15.20	40
	Post Test (T2)	Time	Minutes
s Te	Trainers administer the same instruments that were used at baseline $-T1$ (i.e. before the CST) to both the intervention and the control group.	16.00	60
	Close of training	17.00	
	Follow-up Test after 6 months (T3)	Time	Minutes
Follow- Up Test	Trainers administered the same instruments that were used at baseline test (T1), post-test (T2) to both intervention and control groups after 6 months as a follow-up test (T3).		60

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