A Research Project Report for

The Operational Research Program
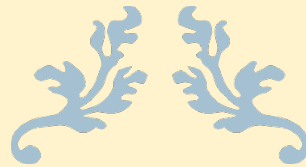By
Tamil Nadu Health System Reform Program

And
Indian Institute of Technology Madras (Nodal agency)

Titled

An Operations Analysis of "Effective Health Care Communication Training" piloted at Tirunelveli Medical College under Tamil Nadu Quality Enhanced Structured Training Program(TAN-QuEST)

Submitted by

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Acknowledgement

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Title:
An Operations Analysis of "Effective Health Care Communication Training" piloted at Tirunelveli Medical College under Tamil Nadu Quality Enhanced Structured Training Program(TAN-QuEST)

-Dr PM Pabitha Devi,MS (Professor of Surgery),
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Background

The Tamil Nadu Quality Enhanced Structured Training (TANQuEST) program aims to enhance healthcare professionals' skills through structured training programs. This study assessed the effectiveness of the Health Care Communication Training conducted at Tirunelveli Medical College under TANQuEST

Objectives

1. Evaluate the organizational approach in preparing and implementing the training module.
2. Assess the perception of trainees regarding the training process, content, and benefits.
3. Identify barriers in operationalizing the training and strategies to overcome

Methodology

Study Design: Mixed-methods study (quantitative and qualitative analysis).
Participants: 1,272 healthcare workers, including doctors, staff nurses, paramedics, and support staff.
Data Collection: Pre- and post-training assessments, observational checklists, trainee feedback, and in-depth interviews.

Key findings

- Significant improvement in knowledge post-training ($p<0.05$).
- 95% of participants found the training relevant and applicable.
- Increased confidence in communication skills post-training.
- 97 % of trainees reported applying learned communication techniques in their workplace.
- Thematic analysis revealed that participants enjoyed the training programme and valued role-playing exercises the most.
- Identified barriers: trainer availability, time constraints, and infrastructure limitations.

Budget: Rs 20,90,798

Conclusion:

The TANQuEST training at Tirunelveli Medical College was well-received and improved communication skills among healthcare workers.
Addressing identified barriers can enhance future training effectiveness and sustainability.

Recommendations:

1. Can expand the training programme to other institutions.
2. TANQuEST Platform can be used for other training modules

Chapter 1: Introduction

1.1 Background

World health organization (WHO) defines Continuous Professional Development (CPD) as a approach that encompasses a broad spectrum of competencies beyond clinical updates, including research, the multidisciplinary aspects of patient care, communication, behavioural skills, technology, managerial skills to enhance patient outcomes and satisfaction. Designing, implementing, ensuring uniformity and monitoring the quality of these programmes at national level is a huge challenge especially in countries like India though we have organizational framework.(1,2) The "Global Strategy on Human Resources for Health: Workforce 2030" by the World Health Organization (WHO) emphasizes the urgent need for making health system more resilient by addressing workforce shortages, improving accessibility, ensuring the acceptability of care, and enhancing the quality of health services, to achieve universal health coverage and fulfil health-related Sustainable Development Goals (SDGs).(3)

Health systems must change from being centred around institutions and diseases to being centred around people if universal health care is to be achieved. World Health Organization (WHO) advocates integrated people centred approach which means health services that are managed and provided so that individuals receive a continuum of services for health promotion, disease prevention, diagnosis, treatment, and tailored to their needs over the course of their lives. WHO advocates the following strategies as part of this approach;1. Engaging and empowering communities 2. Harmonizing services across various sectors 3. Reorienting the model of care delivery 4. Enhancing governance and ensuring accountability;5. Establishing a supportive and conducive environment. (4–6) Studies have shown that efforts to develop relationships with patients and winning their trust can significantly impact the health outcomes.(7) The quality of patients' interactions with their healthcare provider and team plays a crucial role in shaping their perception of the medical care they receive. Research has shown that large-scale communication training programs for healthcare providers (HCPs) are linked to improved outcomes. The Calgary Cambridge model, Pendletons' model, Neighbour model, and Waitzkin's model

are just a few of the numerous primary care consultation models that are available that prioritise ideal rather than real-time conversations.(8,9)

1.2 Rationale:

Different models of continuous professional development system are practised around the world. Development, implementation, and sustainability of a continuing professional development (CPD) system for healthcare professionals depend on leadership, a framework, and a well-defined strategy that is sensitive to the needs and context of the setting. (8,9) There is gross inequality exists in terms of accessibility, standards, assessment, content across the different cadres of health workers around the world.(10,11)

With approximately 20,000 doctors, 50,000 nurses, and other medical professionals working there, Tamil Nadu has one of the best public health systems in the nation. For the changing environment, it is necessary to make existing training sessions and programmes more structured and more standardised. The goal of the ground-breaking Tamil Nadu Quality Enhanced Structured Training (TAN-QuEST) program is to bridge this gap and create an organisational structure that encourages continuous professional development in terms of knowledge, skills, and attitudes of the health care workers.(12)

TAN-QuEST aims to reform and restructure continuous professional development of the health workforce through:

1.   **Policy Framework** that recognizes and mandates in-service Professional Training

2.   **Robust Governance Structure** that implements and monitors such training

3.   **Need Based Training** based on requirements and preferences.

4.   **Board of Studies** develops, pilot tests and validates such training modules

5.   **Network of Institutional Mentors** for training of trainers and quality assurance of training

6.   **Accessible Training Facility** to avoid the need to travel out of home and work

7.   **Quality Training Environment** by augmenting infrastructure in institutions

8.   **Well-Trained Regional Faculty** from respective regions to avoid spatial disruption

9. **Structured Capacity Building** of institution-based trainers to implement validated modules

10. **Standardized Training Methods** for training of trainers on adult learning principles

11. **Credit Based Assessment System** for sessional assessments.

12. **Self -Sustaining Program** by institutionalizing the continuance of training

13. **E-Learning Platform** for learner centric content and training dashboard (5,6)

Tirunelveli Medical College was chosen for the piloting TAN-QuEST programme. Based on the feedback from the stakeholders' conference, many thrust areas and gaps have been identified. Effective health care communication module was prioritized based upon the feedback from the stakeholders. Effective health care communication n module under TAN-QuEST programme was rolled out between October 2023 to February 2024. Following topics were covered in the module.

Table 1: Description of topics covered in effective health care communication module

SN	Topics covered
1	Principles and technique of communication
2	Effective listening
3	Dealing with emotions
4	Informed consent
5	Communicating diagnosis, prognosis and treatment
6	Communicating bad news
7	Conflict management in health care facilities
	✓ Training session duration: Doctors and Staff nurses -Full day; For others -half day (4 modules); customized according to their need ✓ OSCE- at the end of training for Doctors and Staff nurses

Stakeholders:
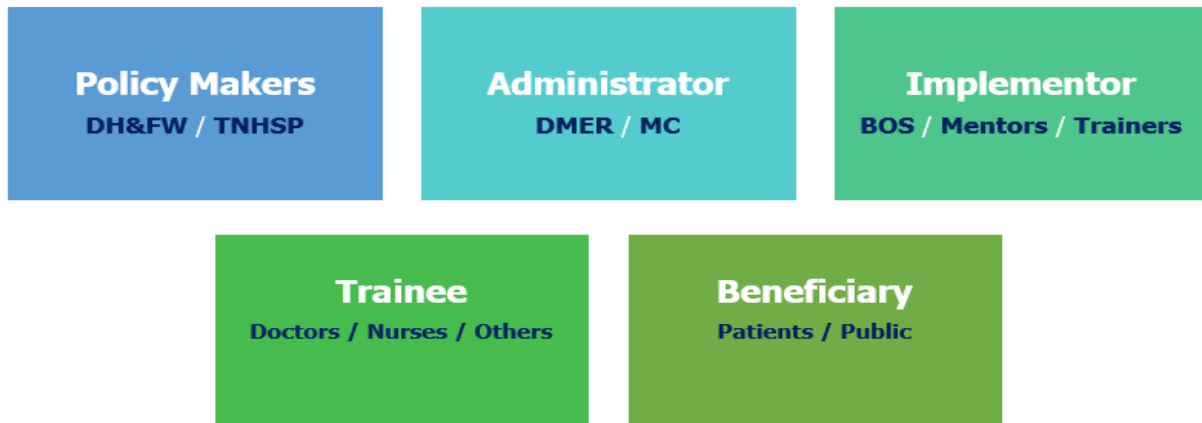
Research questions:

With reference to the pilot implementation site for the training program titled "**Effectiveness of Health Care Communication training in improving the Knowledge Attitude and Practice of health care personnel under TAN-QUEST"** at Tirunelveli Medical College

• Did the training have policy mandate & governance support?

• Did the BOS operate as per laid procedures?

• Was a quality module prepared, tested, validated, rolled out?

• Where a network of Institutional Mentors put in place?

• Was there a Structured Capacity Building of institution-based trainers to implement validated modules based on Standardized Training Methods?

• Was the training assessed?

• What was the feedback and perception of the trainees on the training – process, benefits, gaps, improvements

1.3 Objectives

1.To describe the organizational approaches in preparing the training module - policy mandate, governance support, BOS operations, module preparation, capacitation of network of regional Mentors, Capacity Building of institution-based trainers on Standardized Training and Assessment

Methods

2.To describe the perception of trainees in terms of process, content delivery, perceived benefits, gaps in training, scope for improvement.

3.To describe the barriers in operationalization of training in terms of trainer capacity, trainee attitudes, training process, institutional arrangements, governance support, infrastructural and financial needs and to describe the strategies adopted to overcome the barriers during the progress of the training.

Chapter 2. Methodology:

We used system approach for analysing the effectiveness of the Health Care Communication training in improving the Knowledge Attitude and Practice of health care personnel under TAN-QUEST" at Tirunelveli Medical College

I. Input:

Each of the quality frameworks will be assessed in the following ways:

A. Policy Framework:

Has the Policy Framework satisfied the objectives of the Program?

Was the Policy Framework in consonance with the timelines

B. Robust Governance Structure:

| Has a Governance Structure been provided | Is the structure in alignment with the program | Did the State Advisory Committee meet. Minutes thereof | Did the State Administrative Board meet. Minutes thereof | Was a needs assessment done to identify the priority |

C. Board of Studies:

D. Network of Institutional Mentors:

- Were a network of institutional mentors identified for the priority topic of training

- How were they trained and capacitated

- How was the output tested

E. Accessible Quality Training Environment:

What was the basic status of the training facility in the selected institution for

How was it improved for providing quality training.

F. Structured Capacity Building of Regional Faculty through Standardized

Training Methods:

 How many regional faculty were selected? How?

 How were the faculty classified for the different cadres to be trained?

 How were they batched and trained?

 How was the training of the trainers assessed?

 How were they mentored post training?

 Was their preparedness assessed and feedback provided before commencement of training?

G. Credit Based Assessment System:

• Was an assessment system out in place?

• How was it prepared?

• Was it pilot tested and validated?

II. Process of Training:

How many Cadres were trained, numbers registered, attended training, completed training, certified for the course in each cadre.

Was the training conducted in time, as per standard operating procedures laid down by the BOS, was it observed, was feedback obtained

III. Output of Training:

How do these trainees perceive the effectiveness of the training they received.

Is there any gap and scope for improvement in the training module, based on the trainee feedback.

Was there any specific part of the training, - timing, training content, material, teaching learning methods, assessments, which need to be improved or changed based on feedback of trainee / trainers.

Was the trainee enabled to use, the training at Tirunelveli Medical College during the post training month.

Translation of Findings:

What changes were made based on the findings

Is there any midway course correction done based on trainee-trainer feed back

Was there any specific part of the training - timing, training content, material, teaching learning methods, assessments, improved or changed

2.1 Objective 1:

To describe the organizational approaches in preparing the training module - policy mandate, governance support, BOS operations, module preparation, capacitation of network of regional Mentors, Capacity Building of institution-based trainers on Standardized Training and Assessment Methods

Setting: TNHSRP, DMER and Tirunelveli Medical College

Study design: Mixed method study

Both qualitative and quantitative techniques will be used.

Duration: 1 month

Desk Review: The records pertaining to the operationalization of the first topic of training will be reviewed including GOs, communications, meeting records, minutes of meetings etc.

•   GOs issued –Yes/No

•   No of Meetings

•   No of Participants

•   No of Agenda/Resolutions

•   No of Communications

In-depth Interviews were conducted with the stakeholders concerned on the barriers of governance including procedures etc

2.2 Objective 2:

To describe the perception of trainees in terms of process, content delivery, perceived benefits, gaps in training, scope for improvement

Training Effectiveness: measures the impact of training on the trainee's knowledge, skills, performance, and the hospitals patient satisfaction of services. The training's goals and objectives should be determined before training occurs, allowing these to be clearly and accurately measured

Study Setting: Tirunelveli Medical College

Study Design: Mixed Methods - Explanatory Sequential Mixed-Methods Design

Study Duration: 6 months

Quantitative component:

Sampling: All the trained participants were involved (n=1250)

Study tool: Kirkpatrick's 4-Level Training Evaluation Model - Reaction, Learning, Behaviour & Results (13) was used.

Centre for disease control (CDC) tool for Post course evaluation was used for assessing the learning component. Areas covered include learning of knowledge or skills, relevance, Characteristics of training, Intent to use or apply, suspected barriers to use or application, Intent to use or apply, weaknesses and strengths.(14)

2.2.1 Kirkpatrick's 4-Level Training Evaluation Model

Test of Reaction: The goal of the reaction stage is to get a good grasp of how satisfied our trainees are with the training. In the process, recurring themes or patterns and potential areas for improvement will also be noted.

Measures: Cadre wise - early registration rate, training attendance rate, Completion rate, Trainee Interaction Score

Test of Learning: This is to ensure the training has met its intended objectives with the trainee, test of knowledge / skills

Measures: Pre and Post sessional test score, CDC Post course evaluation

Test of Behavior: To see whether the trainee's behavior has changed due to the training received and to what degree. In particular, how has the training influenced their communication skill.

Measures: OSCE, CDC Post course follow-up after one month.

Test of Results: To evaluate how effective the training program has been in driving results in the hospital - patient satisfaction

Measures: Patient Satisfaction Score – OP and IP (not in scope)

Data analysis:

Data was entered into Microsoft Excel and later imported into Epi info version 7.2.3 for analysis. Frequency and proportions will be calculated for quantitative variables. Quantitative variables were reported as mean and standard deviation.

The paired 't' test was used to calculate the mean differences in knowledge between the pre- and post-tests. Categorical Variables were analysed using a McNemar's test and Odds ratio will be calculated with 95% confidence interval for difference between pre and post-test proportions. P value of <0.05 was considered as significant.

2.2.2 Qualitative Methods:

In-depth Interviews and Focus Group discussions were used

Interviews were audio-recorded, transcripts were prepared, based on a QR interview guide prepared with Mixed Methods Appraisal Tool and Standards for Reporting Qualitative Research (SRQR) and Consolidated Criteria for Reporting Qualitative Research (COREQ)

Study tools: Semi structured or structured in-depth interviews, key informant interviews and focused group discussions with participants and trainers, observers were performed as per the requirement or until the data get saturated. Triangulation of data was ensured by involving multiple data sources, using observer field notes, multiple research project assistants and methods. Member checking was used to increase the study credibility.

Interviews were recorded and transcribed after informed consent and thematic analysis was done. Interview recordings and observation notes were compared to reduce the bias. NVivo software was used for analysing the coded data.

2.3 Objective 3:

To describe the barriers in operationalization of training in terms of trainer capacity, trainee attitudes, training process, institutional arrangements, governance support, infrastructural and financial needs and to describe the strategies adopted to overcome the barriers during the progress of the training

Study Setting:	Tirunelveli Medical College
Study Design:	Mixed Methods - Explanatory Sequential Mixed-Methods Design
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Quantitative component:

Observer checklist: Mean and standard deviation were calculated.

For each day, one doctor who was trained in medical education was appointed as observer. He/ She objectively score each session for a maximum of 5 marks. Comments for each session were also received.

Ethical considerations:

Research was conducted after getting institutional ethics committee approval and informed consent was data collection. Data safety and confidentiality were ensured throughout the study duration.

Expected benefits

Report on the effectiveness of the Health Care Communication training in improving the Knowledge Attitude and Practice of health care personnel under TAN-QUEST" at Tirunelveli Medical College.

Report on barriers in operationalization of training healthcare communication training under TAN-QUEST at Tirunelveli Medical College and the perception, challenges faced and the strategies to overcome the challenges.Feasibility of scaling up the training programme at other sites after incorporating the suggestions

Chapter 3. RESULTS

3. 1. Organizational Framework
Objective 1:
To describe the organizational approaches in preparing the training module policy mandate, governance support, BOS operations, module preparation, capacitation of network of regional mentors, capacity building of institution-based trainers on standardized training and assessment methods

We reviewed the documents as laid out in the guidelines. Administrative provisions of Policy has already been laid down in G.O.(Ms).No. 158 Dated 24.03.2020 of the Department of Health & Family Welfare (EAP-1). The Government has approved the program titled "Tamil Nadu Quality Enhanced Structured Training" (TAN-QuEST) (G.O. (G.O.(Ms) No. 261, dated. 30.08.2022 of the Health and Family Welfare, EAPI) in 2022.State advisory committee (SAC) is the apex implementing agency responsible for giving policy direction, administrative and financial sanction which is chaired by the health secretary, ministry of health and family welfare. State Administrative Board (SAB) is the administrative unit which constitute and oversee the board of studies and other committees. Members of the above said committees were formed as mentioned in the TANQuEST strategic and operational plan documents. Board of studies was also constituted as per the guidelines which is responsible for constituting expert committees which are responsible for the designing of training modules in their domain. Board of studies had recommended minimum set of modules for training programmes across various cadres of workers. Tirunelveli Medical

College was chosen for piloting this programme and a stakeholder meeting was arranged in 2022 to prioritize the modules. Effective health care communication module was prioritized based upon the feedback of the stakeholders as per the minutes of board of studies.

Master trainers were chosen from the eligible list of professors of Tirunelveli Medical College (with medical education training and 15+ years of experience in medical teaching and representative of each branch of Medicine). They were given responsibility to develop the content of the module. The content and teaching learning methods, evaluation was standardized and certified by domain experts. Contents of the modules were in alignment with the prescribed standards of national medical Commission as per competency based medical Education curriculum. District health professional training was formed as per the GO on 30.11.2023 and job descriptions were clearly described. One of the senior Professor was appointed as Nodal officer for conducting the TANQuEST programme and the effective health care communication training was conducted from October 2023 to March 2024.This operational research project was sanctioned during the same time.

Training of trainer's camp was conducted on July 2023(20-22 July) at Tirunelveli Medical College. 20 doctors, 30 staff nurses and paramedical staff and 10 supporting staff were trained by a group of master trainers. Existing resources of the Medical Education unit were used for the training.

Table 1.1: Availability status of list of documents related to TANQuEST

Description of item	Details	Status
Administrative Policy	GO 158/HFW/GOTN@24.03.2020	Available
Approval GO	GO 261/HFW/GOTN@30.08.2022	Available
State administrative committee	Members -listed and responsibilities were mentioned@21.02.2024	Available
State administrative board	Members -listed and responsibilities were mentioned@21.02.2024	Available
Board of studies	Members -listed and	Available

Expert Committees	Members -listed and responsibilities	Available
District health professional training centre	Members -listed and responsibilities@03.11.2023 were mentioned	Available
TANQuEST online portal	Functional http://tanquestdmer.tn.gov.in/	limited functionality
Nodal officer - TANQuEST /TVMC	Orders were issued@17.12.2023	Available

Dedicated web portal was launched as part of the initiative. Prototype version of Web portal can be assessed at the following address (http://tanquestdmer.tn.gov.in/). Facility for Registration, enrolling in course are available. Course materials are available as downloadable video lectures.

Figure 1: Descriptive image of TANQuEST web portal
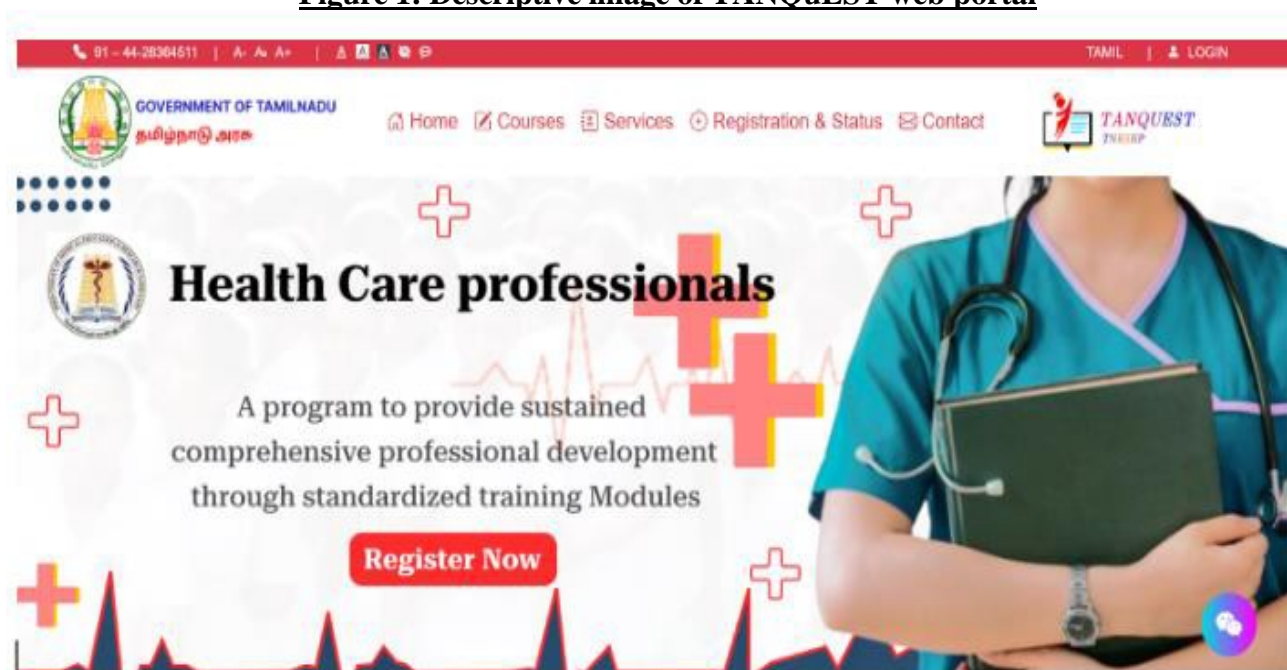
3.2 Perception of trainees and effectiveness of training

Objective 2:

To describe the perception of trainees in terms of process, content delivery, perceived benefits, gaps in training, scope for improvement

3.2.1 Process indicators:

3.2.1.1 Number of Training sessions

Number of Training sessions conducted for each cadre of workers, proportion of healthcare workers attended each session and completed 100% were noted.

Table 2: Session wise attendance details of Doctors

S No	Date	Forenoon	Afternoon	Completion
1	16/11/2023	30	30	30
2	30/11/2023	33	33	33
3	07/12/2023	35	35	35
4	14/12/2023	31	31	31
5	28/12/2023	26	26	26
6	04/01/2024	34	34	34
7	11/01/2024	28	28	28
8	19/01/2024	36	36	36
9	01/02/2024	33	33	33
10	08/02/2024	16	16	16

Proportion of doctors attended both morning and evening sessions -100%

Table 3: Session wise attendance details of staff nurses

S No	Date	Forenoon	Afternoon	Completion
1	30/10/2023	29	29	29
2	06/11/2023	30	30	30
3	20/11/2023	32	32	32
4	27/11/2023	25	25	25
5	04/12/2023	31	31	31
6	11/12/2023	33	33	33
7	08/01/2024	33	33	33
8	22/01/2024	35	35	35
9	29/01/2024	38	38	38
10	05/02/2024	43	43	43
11	09/02/2024	26	26	26
12	12/02/2024	44	44	44
13	16/02/2024	32	32	32
14	19/02/2024	44	44	44
15	23/02/2024	15	15	15
16	26/02/2024	20	20	20
17	04/03/2024	27	27	27

Proportion of staff nurses attended both morning and evening sessions -100%

Table 4: Session wise attendance details of supporting staff

S No	Date	Forenoon	Afternoon	Completion
1	06/12/2023	29	29	29
2	13/12/2023	28	28	28
3	20/12/2023	38	38	38
4	03/01/2023	33	33	33
5	10/01/2024	41	41	41
6	18/01/2024	45	45	45
7	24/01/2024	32	32	32

Proportion of supporting staff attended both morning and evening sessions -100%

Table 5: Session wise attendance details of paramedical workers

S No	Date	Forenoon	Afternoon	Completion
1	27/01/2024	17	17	17
2	02/02/2024	26	26	26
3	07/02/2024	34	34	34
4	14/02/2024	25	25	25
5	22/02/2024	26	26	26

Proportion of paramedical workers attended both morning and evening sessions -100%

Table 6: Session wise statistics

Number of sessions conducted_ cadre wise	Sessions Conducted	Participants	%	Target
Doctors	10	330	100	10
Staff nurses	17	556	94.4	18
Paramedical workers	5	140	55.6	9
Support staff	7	246	58.3	12
Total sessions	39	1272	79.6	49

A total of 1272 health care workers were trained against the target of 1250(102%). Proportion of sessions for paramedical workers and supporting staff are below the target anyway.

3.2.1.2 **Month wise distribution of training sessions**

Table 7: Distribution of sessions month wise _Doctors

Sessions by month	Number of sessions conducted	Participants (n=330)	%	Target
Trainers				
July	3	28	107.7	26
Trainees				
November 2023	2	63	105	60
December 2023	3	92	102	90
January 2024	3	98	108.9	90
Feb 2024	2	49	108.9	45
Total	**10**	**302**	**105.9**	**285**

91% of doctors are trained (330) against the sanctioned post of 362

Table 8: Distribution of sessions month wise _Staff nurses

Sessions by month	Number of sessions conducted	Participants (n=330)	%	Target
Trainers				
July	1	19	100	19
Trainees				
October 2023	1	29	96.7	30
November 2023	3	87	96.7	90
December 2023	2	64	106.7	60
January 2024	3	106	117.8	90
Feb 2024	7	224	106.7	210
March 2024	1	27	90	30
Total	17	537	105.3	510

83% (556) of staff nurses are trained against the target of 671

Table 9: Distribution of sessions month wise paramedical workers

Sessions by month	Number of sessions conducted	Participants (n=330)	%	Target
Trainers				
July 2024	1	3		
Trainees				
January 2024	1	17	85	20
February 2024	4	120	138	80
Total	7	140	140	100

69%   are trained (140) against the target of 204

Table 9.1: Distribution of sessions month wise   supporting staff

Sessions by month	Number of sessions conducted	Participants (n=330)	%	Target
December 2023	3	95	106	90
January 2024	4	151	125	120
Total	7	246	117	210

86% are trained against the target of 285

3.2 Perception of trainees and effectiveness of training

3.2.1 Trainee Interaction Score

An individual observer was appointed to note the engagement of participants for each session. Number of questions asked by the trainer/ participant, games, role play, simulation, quiz, video, case scenario are noted for each session.

Table 10: Distribution of Trainee Interaction Score

Items	Doctors (Mean)	Staff nurses (Mean)	Paramedical workers (Mean)	Supportive staff (Mean)
Number of Questions asked	10	17		6.3
Frequency of Participants interactions /Knowledge check	23.2	28		17.5
Group activities	0.5	0.5		
Roleplay/Simulation	0.5	0.8		
Games	0.2	0.7		
Quiz	0			
Video	1	0.8		
Case/scenario discussion		2.7		

Though there are inter trainer variability, the overall interaction was good. Classroom interaction was more among staff nurses. It was not monitored for paramedical workers.

3.2.2 Smart phone usage:

Smart phone usage during the session was monitored by a separate staff. This reflects the engagement of the participants. Smart phone usage and overall mobile phone usage during the session was more among doctors and low among supporting staff. Findings were discussed with the TANQuEST team now and then and corrective measures were taken simultaneously.

Table 11: Distribution of smart phone usage statistics

Description	Doctors (n=330) Mean	Staff nurses (Mean)	Paramedical workers (Mean)	Supportive staff (Mean)
Attended calls during the session	1	1.3		0.75
Used phone during the session	3.3	2.2		1
Attended calls and left the hall	0.2	0.05		

3.3 Assessment of Learning:

3.3.1 Pre and post test score:

Pre and post-test questionnaire was used to asses the effectiveness of learning of the participants. 20 questions covering all the modules of the module were used for doctors and staff nurses whereas 10 questions were used for other workers.

Table 12: Distribution of Pre and post test score

Items	Mean (SD)		T statistic	P value
	Pre test Score (20/- doctors /10 for others)	Post test score (20/- doctors /10 for others)		
Doctors (n=301)	11.18(2.7)	14.3(2.4)	15.2	0.0001*
Staff nurses (n=536)	4.31(2.14)	5.89(1.83)	13	0.0001*
Paramedical workers(n=127)	4.18(1.59)	5.03(1.46)	4.4	0.0001*
Supportive staff	4.02(1.5)	4.8(1.84)	5.2	0.0001*

There is significant difference in mean score of pre and post test scores across all groups.

3.3.2 CDC tool for Post course evaluation

This questionnaire consists of 25 questions and modified translated version with fewer questions was used for paramedical and supporting staff.

Figure 2.1: <u>CDC post test evaluation _work experience of Doctors</u>

Less than 1 year
2%

1–5 years
11%

n=238

21 years or more
28%

6–10 years
17%

16–20 years
19%

11–15 years
23%
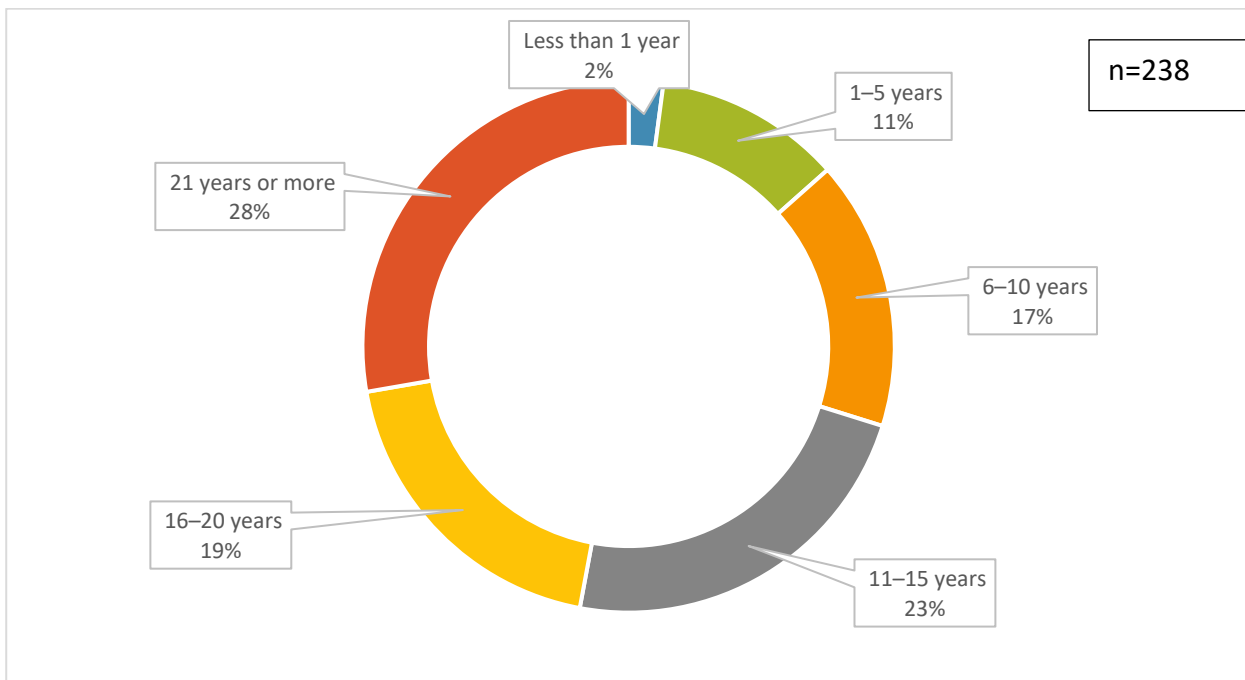
Majority (70%) had at least 10 years of work experience

Figure 2.2: <u>CDC post test evaluation _work experience of staff nurses</u>

Less than 1 year
1%

6-10 years
20%

11-15 years
29%

21 years or more
10%

1-5 years
5%

16-20 years
35%

n=389
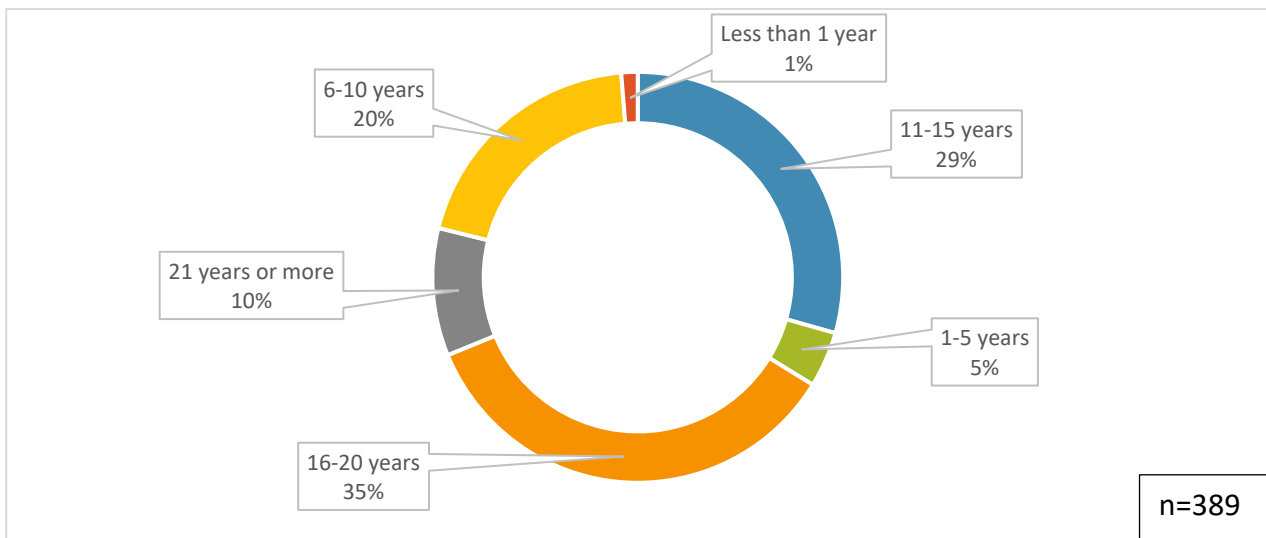
Majority (64%) have at least 10 years of work experience

Figure 3: CDC post test evaluation_ relevant to the work _Doctors

Not at all relevant	3
Slightly relevant	5
Moderately relevant	6
Moderately relevant	36
Very relevant	113
Extremely relevant	75

n=238
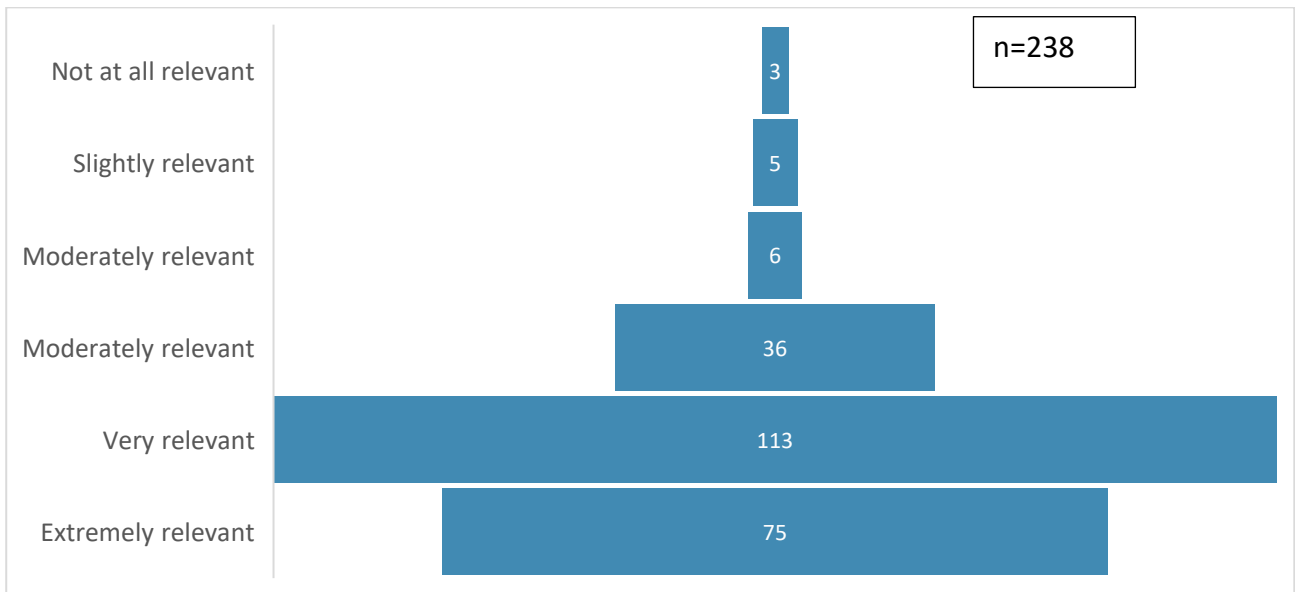
95% of the participants felt that course was very relevant

Figure 4: CDC post test evaluation_ relevant to the work _staff nurses

Not at all relevant	
Slightly relevant	
Moderately relevant	18
Very relevant	117
Extremely relevant	250

n=389
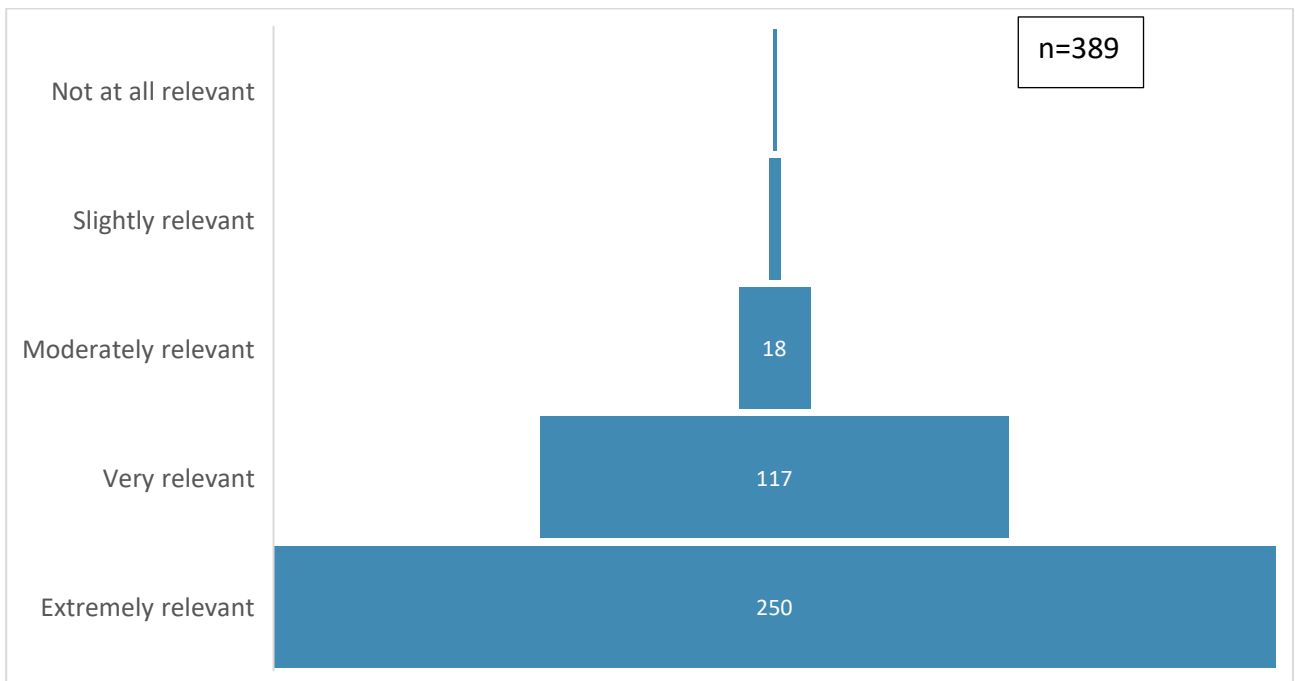
94% of the participants felt that course was very relevant

Figure 5: CDC post test evaluation_ content balanced _Doctors
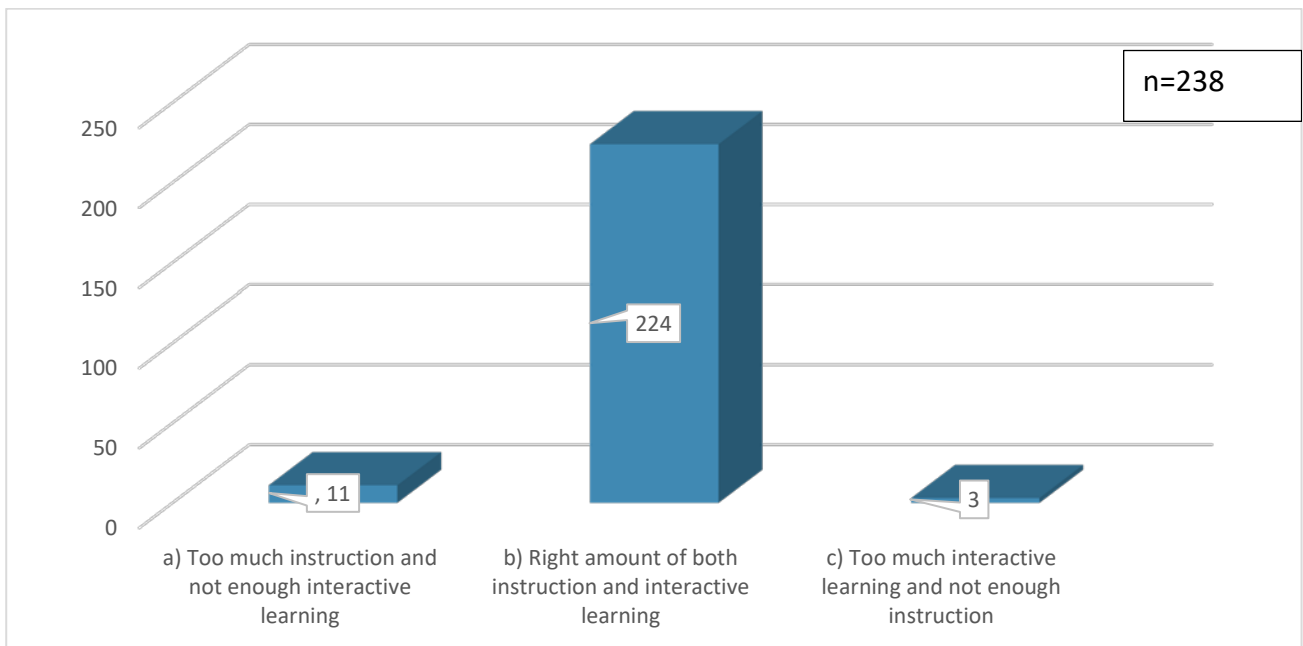
94% of the participants said that content of the course was balanced (instructive & interactive learning)

Figure 6: CDC post test evaluation_ content balanced _Staff nurses
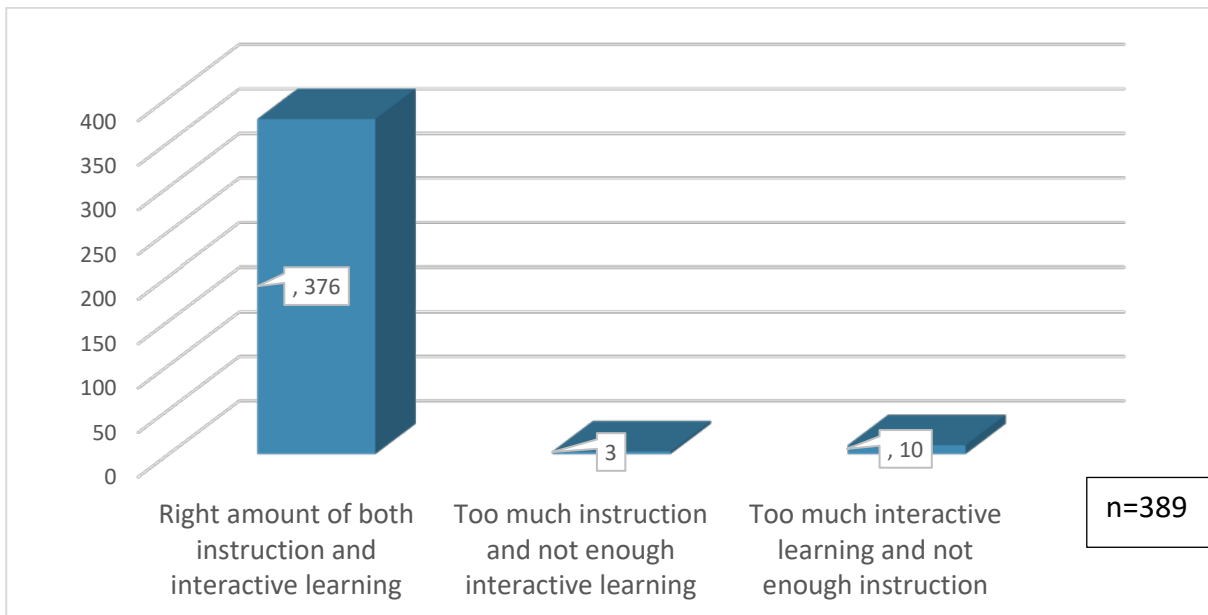
94% of the participants said that content of the course was balanced (instructive & interactive learning)

Figure 7: CDC post test evaluation_ met the expectations _Doctors

Somewhat 9%

No 1%

Not applicable; I did not read the course's description 1%

n=238

Yes 89%
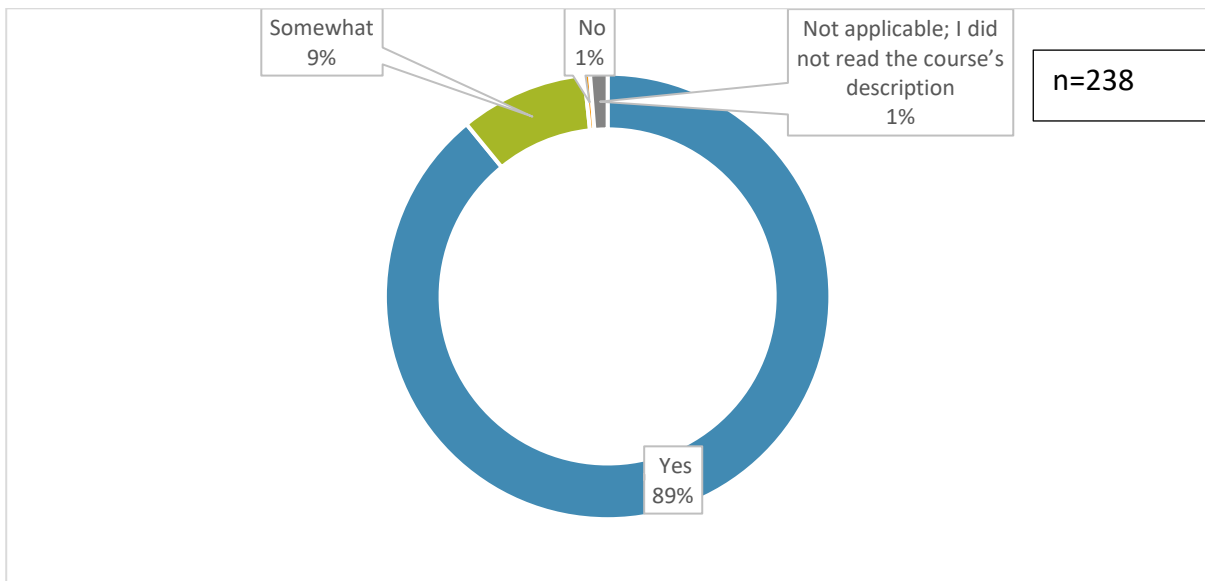
89% of the participants said that the course had met the expectations

Figure 8: CDC post test evaluation_ met the expectations _Staff nurse

No 2%

Somewhat 3%

Yes 95%

n=389
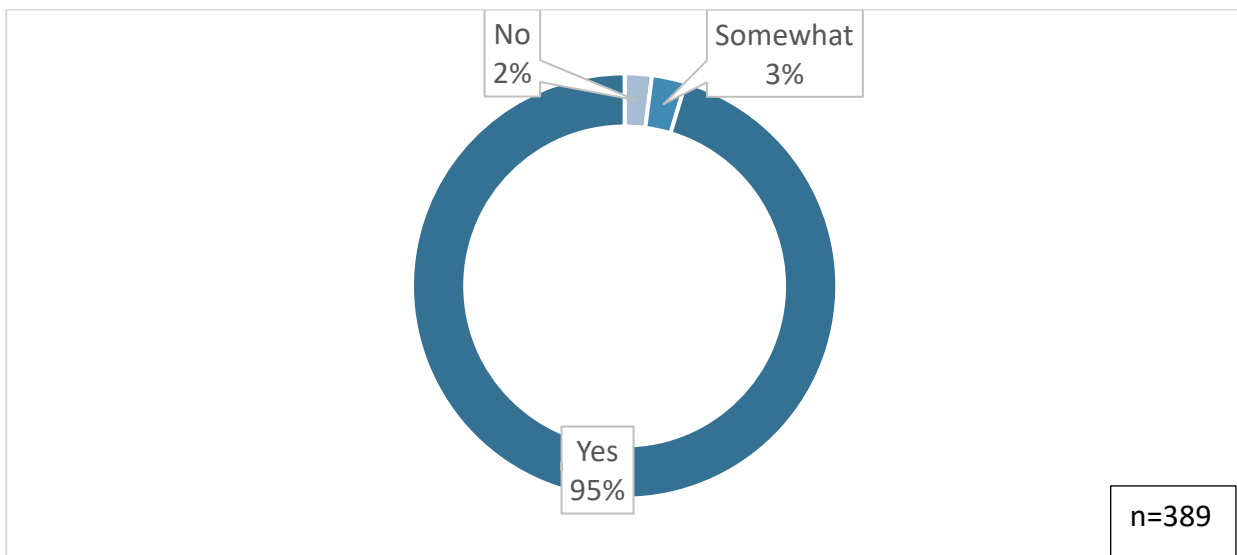
95% of the participants said that the course had met the expectations

Figure 9: CDC post test evaluation_ address the need in profession_Doctors

n=238

No
2%

Not sure
3%

Yes
95%

- Yes   - No   - Not sure
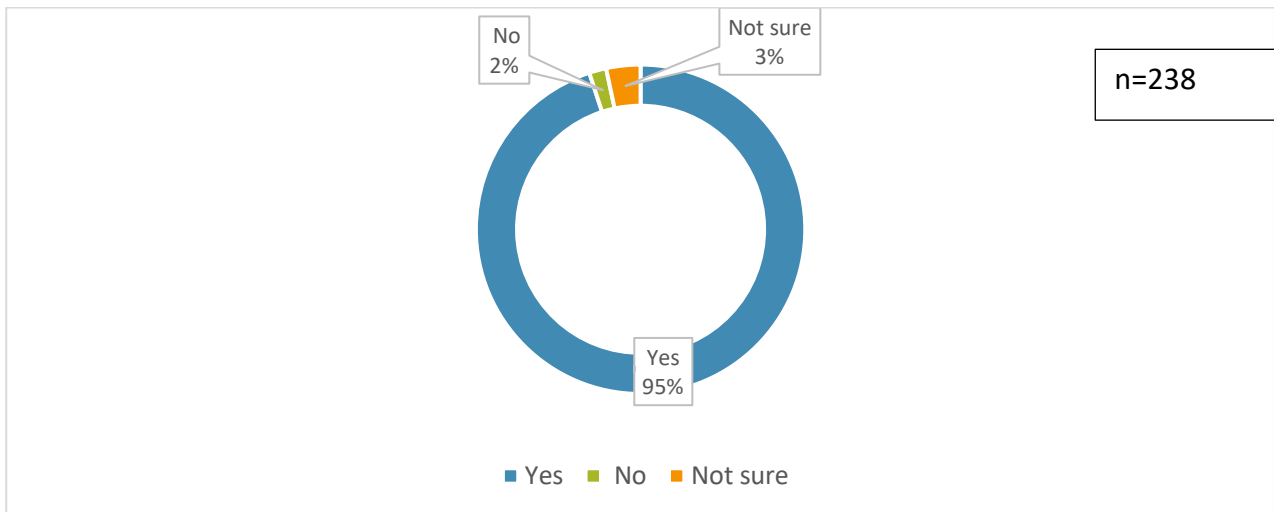
95% of the participants felt that content of the course addressed the need

Figure 10: CDC post test evaluation_ address the need in profession__staff nurses

Not sure
1%

No
1%

Yes
98%

n=389
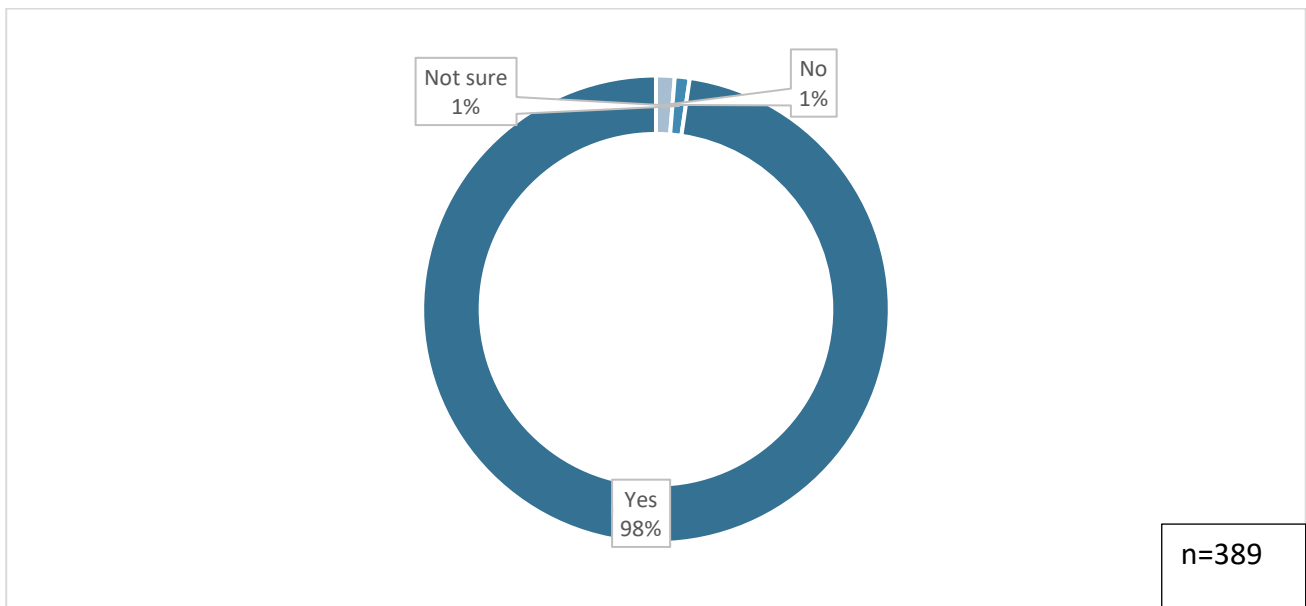
98% of the participants felt that content of the course addressed the need

Figure 11: CDC post test evaluation_ likely to recommend to others_ Doctors
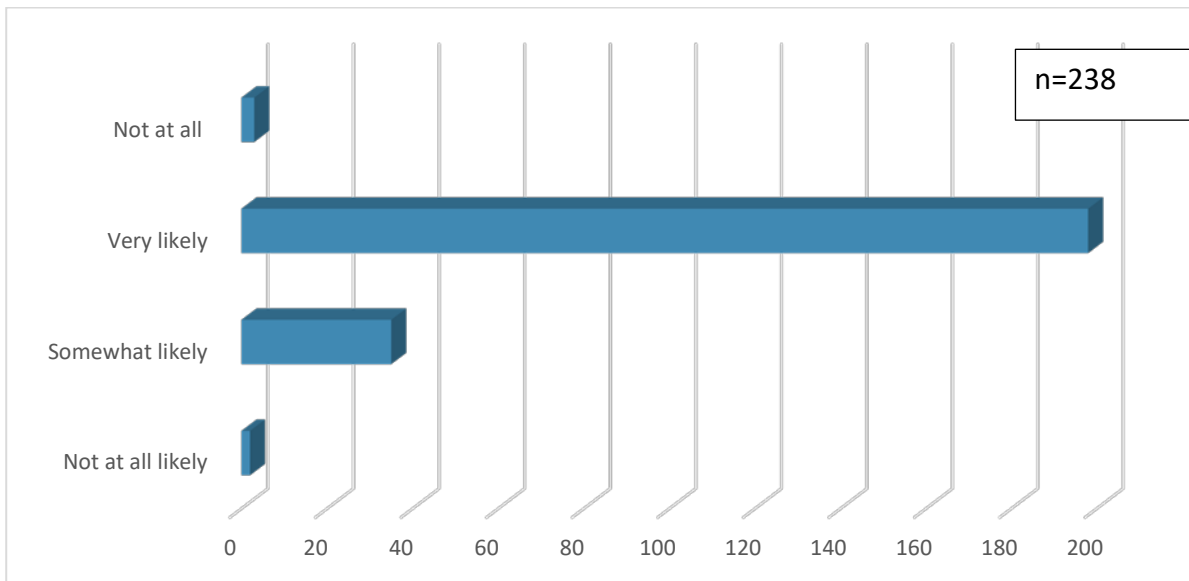
98% of the patients promised that they will recommend this course to others

Figure 12: CDC post test evaluation_ likely to recommend to others_staff nurses
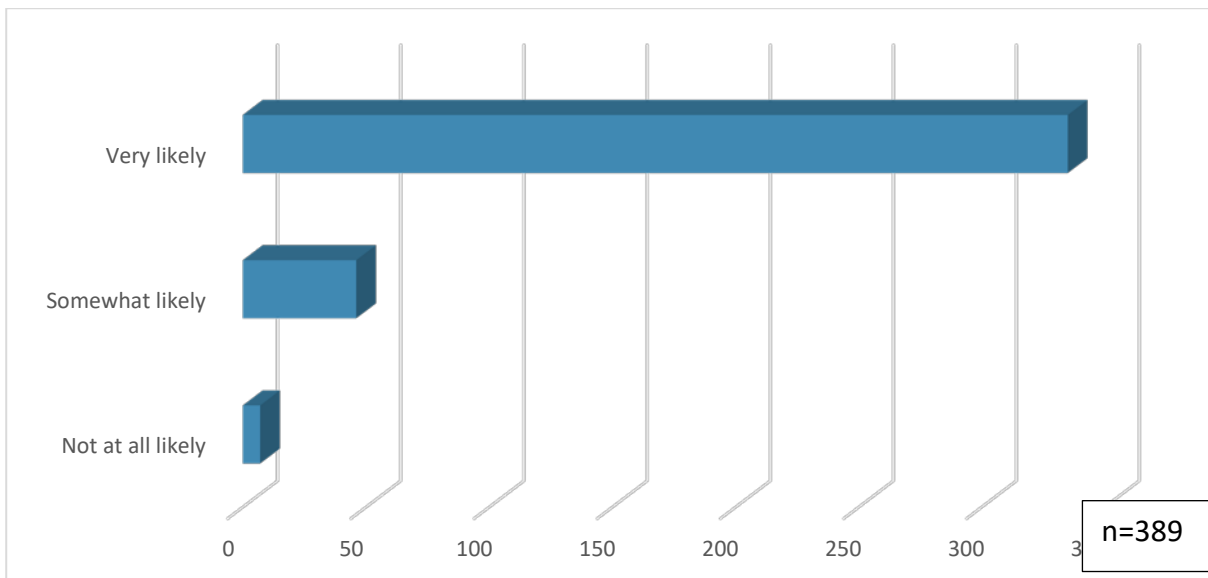
98% of the patients promised that they will recommend this course to others

Figure 13: CDC post test evaluation_ use the skills learned _Doctors
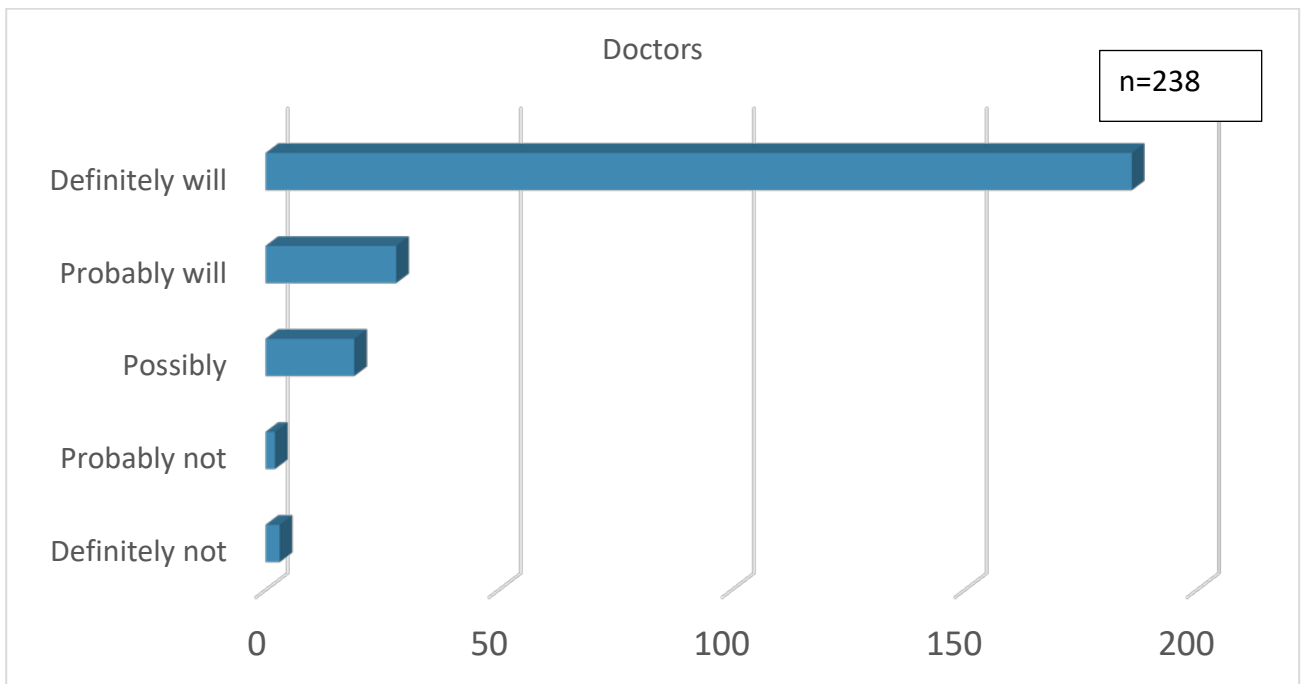
Doctors

n=238

97.9 % of the doctors said that they will use the skills learned in the training session   n=238

Figure 14: CDC post test evaluation_ use the skills learned _staff nurses

Staff nurses

n=389

n=389
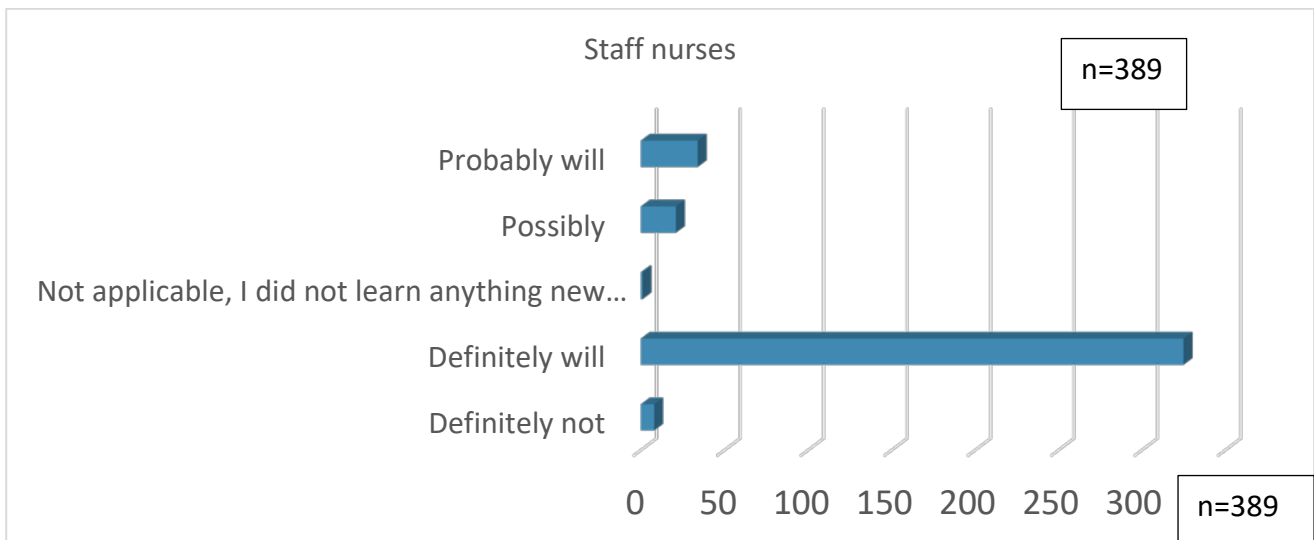
89 % of the participants has said that they will use the skills learned in the training session

Table 13: CDC tool for Post course evaluation-Doctor's perceptions of knowledge

#Rate your knowledge of (or skill in) (Effective communication_before attending the course)	Frequency	Percent
a) Not at all knowledgeable or skilled	3	1.37%
b) Slightly knowledgeable or skilled	71	32.42%
c) Moderately knowledgeable or skilled	104	47.49%
d) Very knowledgeable or skilled	27	12.33%
e) Extremely knowledgeable or skilled	14	6.39%

#Rate your knowledge of (or skill in) in Effective communication_after attending the course	Frequency	Percent
a) Not at all knowledgeable or skilled	2	0.91%
b) Slightly knowledgeable or skilled	4	1.83%
c) Moderately knowledgeable or skilled	54	24.66%
d) Very knowledgeable or skilled	123	56.16%
e) Extremely knowledgeable or skilled	36	16.44%

Table 14: CDC tool for Post course evaluation-Doctor's perceptions of their   ability to communicate effectively following training

Training status	Participant's perception of their ability (n=219)		Odds ratio(CI)	P Value
	High	No or slight		
Before training	41(18.7%)	178(81.3%)	11.5(7.3 to 18)	<0.001*
After training	159(72.6%)	60(27.4%)		

Doctors' perceptions of their ability to communicate effectively significantly changed following the training program (**11.5 times**). McNemar's test was used.

Table 15: CDC tool for Post course evaluation-Staff nurses perceptions of knowledge

#Rate your knowledge of (or skill in) (Effective communication_before attending the course)	Frequency	Percent
a) Not at all knowledgeable or skilled	18	4.88%
b) Slightly knowledgeable or skilled	183	47.04%
c) Moderately knowledgeable or skilled	145	37.28%
d) Very knowledgeable or skilled	32	8.23%
e) Extremely knowledgeable or skilled	10	2.57%
#Rate your knowledge of (or skill in) in Effective communication_after attending the course	**Frequency**	**Percent**
a) Not at all knowledgeable or skilled	2	0.52%
b) Slightly knowledgeable or skilled	8	2.06%
c) Moderately knowledgeable or skilled	25	6.44%
d) Very knowledgeable or skilled	198	51.03%
e) Extremely knowledgeable or skilled	155	39.95%

Table 16: CDC tool for Post course evaluation-Staff nurses's perceptions of their ability to communicate effectively following training

Training status	Participant's perception of their ability (n=219)		Odds ratio(CI)	P Value
	High	**No or slight**		
Before training	42(10.8%)	346(89.2%)	83(51 to 133)	<0.001*
After training	353(91%)	35(9%)		

Staff nurses' perceptions of their ability to communicate effectively significantly changed following the training program (**83 times**). McNemar's test was used

3.3.3 Follow up CDC questionnaire
(Questionnaire was administered after one month of training)

Figure 15: Follow up CDC(@ after 1 month)_ category wise distribution

N = 545
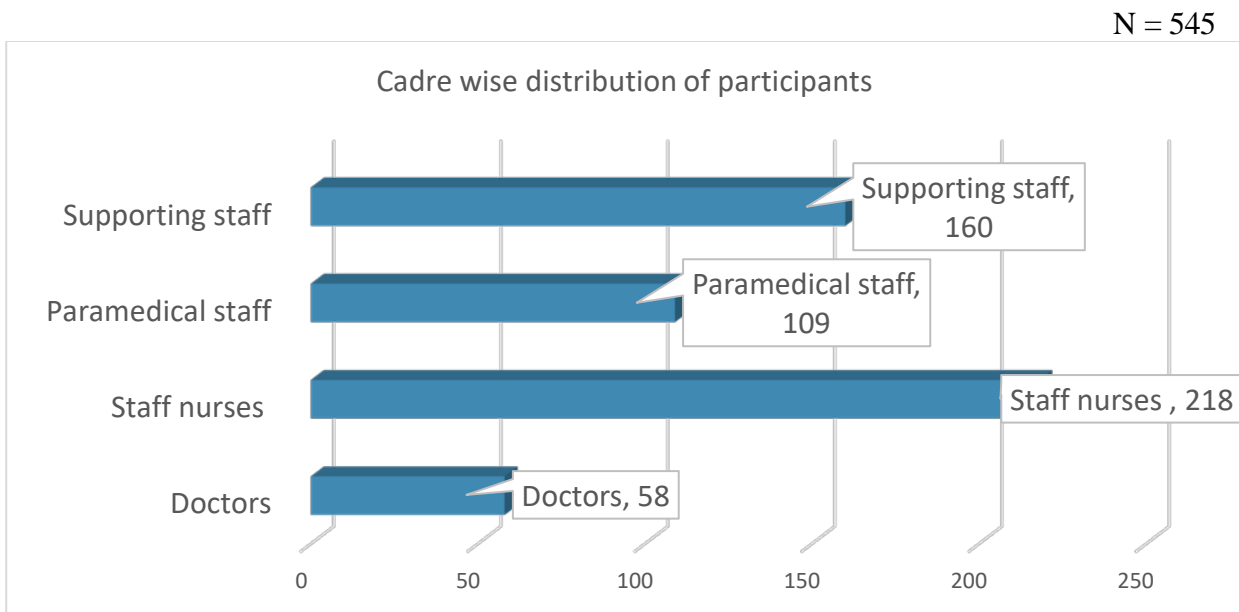
40% of the participants were staff nurses. More para medical workers and supporting staff were included as they are often the first point of contact for patients.

Figure 16: Follow up CDC(@ after 1 month)_ used the skills learnt during the course
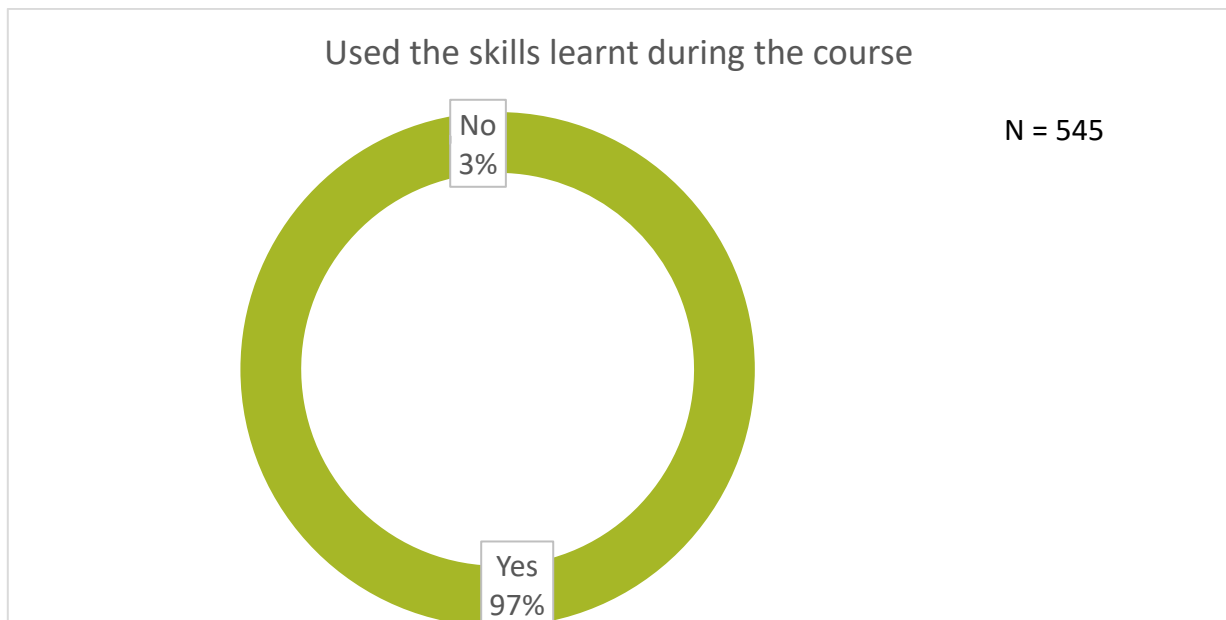
Majority (95%) of the participants practised what they have learnt

Figure 17: Follow up CDC(@ after 1 month)_ recommend this course to others

Recommend this course to others

N = 545

No
8%

Yes
92%
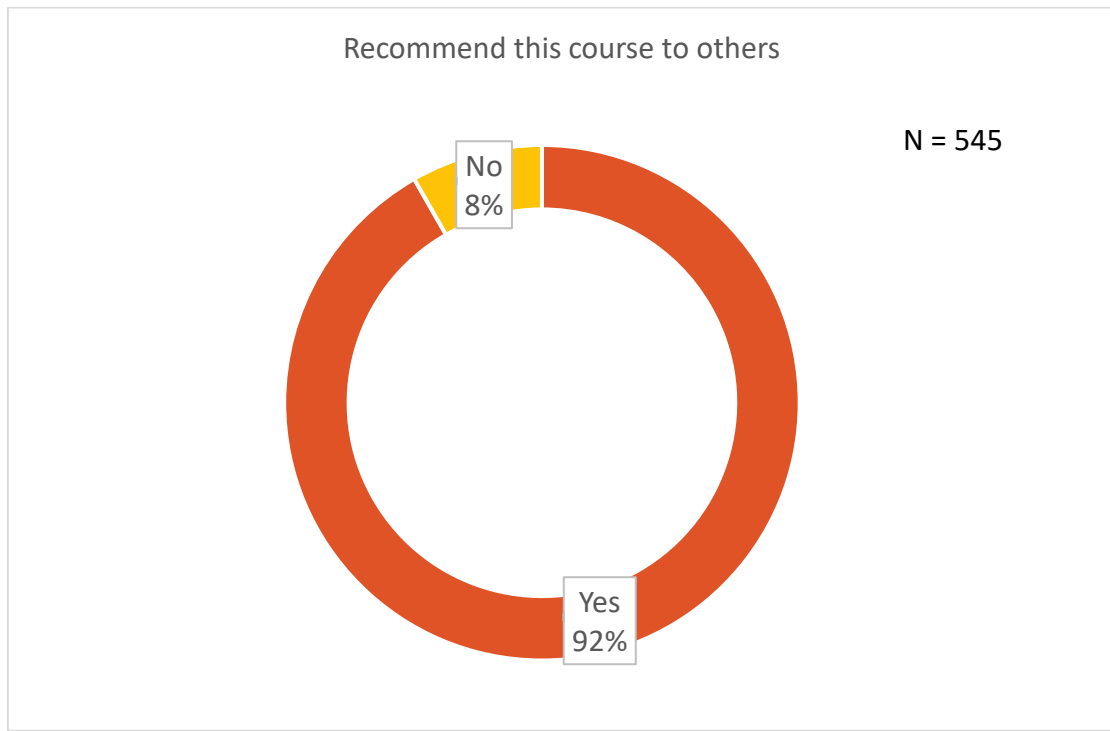
92% of the participants would like to recommend the course to others

3.4 Qualitative analysis of participants:

Table 17: Distribution of number of interviews conducted among participants

	No. of In-Depth	No. of FGD
Doctors	10	2
Staff Nurses	13	3
Paramedical	7	2
Supporting Staff	5	1
Total	**35**	**8**

A total of 35 in-depth interviews and 8 focused group interviews were conducted.

The qualitative component of the study involved in-depth interviews and focused group discussions with doctors, staff nurses, paramedics, and support staff. Thematic analysis was conducted to identify key insights regarding the effectiveness, challenges, and potential improvements of the TANQuEST training program at Tirunelveli Medical College.

Table 18: _Thematic analysis of Qualitative interviews_doctors

Theme	Sub theme	Narrative Description
Relevance and Usefulness of the Training Program	Refresher course	
	Useful for clinical and non-clinical aspects	
	Beneficial for undergraduates and postgraduates	"Better it is for the undergraduate, post-graduates, those who are going for practice in future."
Feedback on Training Content and Delivery	Printed material	
	Consent and legal aspects	The consent is very elaborate," "They showed the mistakes happening in consent taking."
	Curriculum enhancement	
	Role of empathy in patient care	
	Conflict management (theoretical vs. practical)	"It was very theoretical"
	Timing and duration of the training	"Time was long" "It will be good if you do it for half a day."

Theme	Sub theme	Narrative Description
Evaluation and Monitoring of the Training Program	Feedback and satisfaction level	"I'll give a 50% pass mark," "I'll give 80%."(mixed)
	Practical assessment (OSCE, table-to-table discussion)	
	Continuous monitoring and updating of the program	"It's difficult to monitor our curriculum,"
Delivery Modalities and Resources	Online vs. offline training	"You can do it online,(some advocated for online)
	Audio-visual aids and their effectiveness	"Audio video visuals were all good," "Audio was not audible that is my opinion"
	Trainer engagement and expertise	"If the trainers improve, it will be good, right?"
	Feedback and satisfaction level	"I'll give a 50% pass mark," "I'll give 80%."(mixed)
Suggestions for Improvement and Future Implementation	Incorporating the training into the curriculum (CRRI, PG)	
	Frequency and timing of the training	"We can do it once a year," "One time is enough," "The training should be conducted Again and again."(mixed)
	Practical sessions and role-play	"The role play was engaging," "This should be practiced," "Practical sessions can take up to half an hour."
	Involving different specialties and departments	
	Incorporating the training into the curriculum (CRRI, PG)	
	Frequency and timing of the training	"We can do it once a year," "One time is enough," "The training should be conducted Again and again."(mixed)

Theme	Sub theme	Narrative Description
Overall Positive Feedback	Positive feedback on training	"The session was very good."
	Usefulness of specific sessions	"The session about consent was very useful."
	Change in perspective	"Our perspective changed because of that."
Content Delivery: Practical vs. Theoretical	Practical vs. theoretical	"More of theory. Less of practice."
	Importance of practical training	"Practical is good."
	Need for clinical experience	"Seniors should take the clinical side."
	Effective communication training	
Need for Clinical Experience and Real-world Application	Communication gaps	
	Positive feedback on training	"The session was very good."
	Usefulness of specific sessions	"The session about consent was very useful."
	Dealing with patient's relatives and mob behaviour	
Challenges in Implementing the Training in Practice	Communication barriers	We have to deal with it with fear," "We have to communicate with one or
	Lack of empathy and emotional connection with patients	They express their emotional anxiety in a different way. "We are afraid that we won't be able to empathize with them."
	Negative stigma and perception of the community	They have a negative opinion," "Communities in the negative stigma."
	Dealing with patient's relatives and mob behaviour	
	Communication barriers	

Table 19: _ Thematic analysis of Qualitative interviews__others

Theme	Sub theme	Narrative Description
Usefulness of Training and Content Content Feedback	Usefulness	"The training was very useful."
	Insufficiency and Suggestions for Additional Content	"We could have done more. The content is less." "Could have added more content."
Timings	Timings and duration	"Timing was not a problem."
Practical Application	Practical Application of Training	"Some things can be changed . Others will be challenging"
Interaction and Engagement	Group Interaction and Engagement	Enjoyed
Multimedia and Training Methods	Use of Audio-Visual Aids	"The video was a bit laggy." Quality videos can be used"
	Overall Positive Feedback	"We haven't had that kind of training before.' "It was good that we took the class."
Overall Training Experience	Suggestions for Improvement	"The content is okay. We just need to do a little more. "We could have organized the content a bit."
Suggestions for Improvement	Importance in patient care challenges in practical application	
	Audio and video quality	Feedback on training methods, including audio, video, and practical sessions, varied. Participants expressed preferences for more interactive video content and practical demonstrations.
Communication Skills Feedback on Training Methods	Effectiveness of different teaching methods	

Figure 18: Thematic analysis of Qualitative interviews _Positive _feedback

Figure 19: Thematic analysis of Qualitative interviews _Negative feedback

Thematic analysis summary of participants

Doctors

- "The consent is very elaborate," "They showed the mistakes happening in consent taking."
- "Everyone should receive this excellent training, including postgraduate students, interns, assistant professors, associate professors, and professors. Many problems these days are reported as a result of bad doctor-patient relationships. This training is therefore crucial."
- "The role play was engaging," "This should be practiced," "Practical sessions can take up to half an hour."
- "Seniors should take the clinical side."
- "Printed materials could have been given"
- "Our perspective changed because of that."

Others

- "We haven't had that kind of training before.'
- "Can add stress management "
- "Very useful; enjoyed the role play and games "
- "I find it difficult to reach the site"
- "Content is good and audio visual aids are also good"
- "Timing was not a problem."

Key Themes & Findings

1. Relevance & Perceived Benefits of Training

- Majority of participants found the training highly relevant to their daily responsibilities.

- Doctors and nurses particularly appreciated modules on informed consent, patient communication, and conflict management.

- Many suggested that the training should be integrated into medical education (CRRI & PG training).

2. Effectiveness of Content & Delivery

- Practical sessions like role-playing, case scenarios, and group discussions were highlighted as the most engaging and impactful.

- Some participants felt the training was too theoretical, suggesting more hands-on exercises.

- Printed materials and audio-visual aids were generally well received but needed improvement in clarity and accessibility.

3. Challenges in Implementation

- Time constraints: Some participants struggled to balance training sessions with their hospital duties.

43

- Trainer expertise: A few participants mentioned the need for better-trained facilitators.

4. Impact on Communication Skills & Patient Interaction

- Improved patient interactions and teamwork were reported, especially among staff nurses.

- Doctors and paramedics noted increased confidence in handling difficult conversations (e.g., breaking bad news, conflict resolution).

- Some participants cited challenges in applying skills due to workplace pressure and institutional barriers.

5. Recommendations for Future Training

- Shorter and more frequent refresher courses to reinforce learning.

- Enhanced digital resources (e-learning modules, recorded sessions).

- Structured assessment system to track skill application over time.

- Expanding training to other institutions while customizing it for different cadres.

The qualitative analysis underscores the positive impact of the TANQuEST training on healthcare communication skills. While the training was well-received, improvements in practical application, trainer preparedness, and institutional support are necessary for long-term sustainability and effectiveness. Addressing these challenges can further enhance communication practices, ultimately leading to better patient care and healthcare outcomes.

3.5. Perception of trainers

Objective 3:

To describe the barriers in operationalization of training in terms of trainer capacity, trainee attitudes, training process, institutional arrangements, governance support, infrastructural and financial needs and to describe the strategies adopted to overcome the barriers during the progress of the training

3.5.1 Quantitative Data:

Faculty members who were trained during the training of trainer's workshop were appointed as observer for all days of training. Each session was assessed for content, AV aids, time allocation, engagement of participants, learning environment. Also, punctuality, participation in group and individual activities of participants were graded. Adherence to the schedule and content were also noted. Reflections of the observer were communicated to the TANQuEST team and corrective measures were taken now and then.

Table 20: Distribution of observer checklist scores of training sessions-Doctors

S.N	Topics	Mean score (SD) (Maximum of 5)
1	Principles and technique of communication	4.3 (0.13)
2	Effective listening	4.2 (0.24)
3	Dealing with emotions	4.05 (0.18)
4	Informed consent	3.9 (0.32)
5	Communicating diagnosis, prognosis and treatment	4.2 (0.05)
6	Conflict management in health care facilities	3.95 (0.11)

Table 21: Distribution of observer checklist scores of training sessions-Staff nurse

Mean score of sessions for staff nurses are higher than doctor's sessions.

SN	Topics	Mean score (SD)
1	Principles and technique of communication	3.7(0.11)
2	Effective listening	3.8(0.16)
3	Dealing with emotions	3.7(0.10)
4	Informed consent	3.9(0.08)
5	Communicating diagnosis, prognosis and treatment	3.8(0.2)
6	Communicating bad news	3.8(0.16)
7	Conflict management in health care facilities	3.7(0.2)

3.5.2 Qualitative analysis

Table 22: Distribution of number of interviews conducted among trainers

Category	No. of In-Depth Interviews conducted	No. of FGD conducted
Doctors	6	1
Staff Nurses	5	1
Paramedical	3	
Supporting Staff	3	
Total	**17**	**2**

A total of 17 key informant interviews and 2 Focussed group discussions were conducted. The qualitative analysis focused on trainers' perspectives regarding their experiences with the TANQuEST training program at Tirunelveli Medical College. Trainers included senior faculty members, experienced healthcare professionals, and facilitators responsible for delivering the training sessions. Their insights provided valuable information on training effectiveness, challenges, and areas for improvement.

Table 23: _Thematic analysis of Qualitative interviews_ doctors (trainers)

Theme	Sub theme	Narrative Description
Overall Positive Feedback and Confidence Building	Positive feedback on training	"The training was very good."
	Initial hesitation and confidence building	"We were hesitating whether we would be able to perform as well as you did."
	Improvements over sessions	"After each session, we became very confident."
Learning and Improvement from Feedback	Participant cooperation	"They responded well."
	Learning from feedback	**"We have modified our contents based upon the feedback from the participants and observers"**
	Feedback	"satisfactory"
	Location	"Good"
Practical and Logistical Issues	Audio/visual issues	**"The audio was not good."**
	Support from colleagues	"The people who were with us in the department adjusted for us."
Training Content and Delivery	Role play effectiveness Participant engagement	"The role play was good." "Everyone participated actively."
	Need for shorter sessions	**"The duration of each person should be restricted to 30 minutes."**
	Issues with content delivery	"The content delivery and what they perceive should be done."
Relevance and Practicality of Topics	Relevance of topics	"Highly relevant."
	Problems with informed consent	"Especially in informed consent, many people don't have clarity."
	Relevance for different roles	**"For non-clinics, why this topic?"**
Engagement and Participation	Importance of practical sessions	**"The practical session is good."**
	Issues with non-participants	"Some people didn't even attend."

Table 24: Thematic analysis of Qualitative interviews_ others (trainers)

Theme	Sub theme	Narrative Description
Effectiveness and Impact of Training	Training Content and Relevance	Emphasizes the need for more **frequent training** sessions and expanding the scope of training to cover **more aspects like conflict management**.
	Practicality and Usefulness	Advocates for **early training upon entering service, highlighting gaps in knowledge among new recruits** regarding rules and regulations.
		Reflects on the timing of training sessions and the need for adequate time to cover topics thoroughly to avoid rushed sessions.
Training Logistics and Administration	Preparation and Delivery	"It was challenging to organizing practical demonstrations, including the use of videos and scripting"
		Mentions difficulties in using technology (e.g., PPTs) and acknowledges assistance from others, such as family members.
	Timing and Duration	Need flexibility in session lengths to ensure comprehensive coverage.
		Suggests longer training durations to allow for deeper engagement and practical application of learning.
Location and Timing Issues	Difficulties in locating training venues	Difficulty in finding training location. "Need clearer location directions. and sign boards"
Participant Engagement and Feedback	Involvement and Participation	Highlights the importance of interactive sessions and practical demonstrations (e.g., live demonstrations in ICU settings) for effective learning.
	Challenges and Barriers	Advocates for group activities and role-plays Identifies barriers such as lack of manpower and logistical challenges in implementing training effectively across different hospital settings.
Training Evaluation and Certification	Certification and Crediting	Proposes incorporating stress management, change management, and decision-making skills, hospital management and medico legal, medical certification of deaths aspects into future training sessions.
Suggestions for Improvement	Enhancements and Additional Topics	

Figure 21: Narrative summary of Thematic analysis of qualitative interviews-trainers

Thematic analysis summary of trainers

Doctors

"We were hesitating whether we would be able to perform as well as others"

" After each session, we became very confident."

" The practical session is good."

We have modified our contents based upon the feedback from the participants and observers"

"The duration of each person should be restricted to 30 minutes."

"For non-clinics, why this topic?."

Proposes incorporating stress management, man management, decision-making skills, hospital management and medico legal, medical certification of deaths aspects into future training sessions.

Others

"Need clearer location directions. and sign boards"

"Early training upon entering service/ for new recruits is essential "

"Good experience for us and enjoyed a lot "

"Reception was good and we had modified our presentations as per the feedback"

Key findings :

1. Trainers' Perception of the Training Effectiveness

   Trainers found the structured approach and interactive methodology (role-playing, case discussions) highly beneficial in engaging participants.

- The curriculum was well-designed, covering essential aspects of communication skills, patient interactions, and teamwork.

- Most trainers reported positive feedback from participants, noting increased confidence in patient communication.

2. Challenges Faced by Trainers

- Time Constraints: Balancing regular clinical duties with training responsibilities was a major challenge.

- Trainer Preparedness: Some trainers felt the need for additional training in adult learning principles and interactive teaching methodologies.

- Heterogeneous Audience: Adapting the training to diverse groups (doctors, nurses, paramedics) required extra effort to keep sessions relevant for all.

- Limited Resources: Some trainers reported a lack of audio-visual aids and standardized assessment tools to evaluate participants effectively.

3. Impact on Trainers' Professional Development

- Many trainers reported an enhanced understanding of communication dynamics in a healthcare setting.

- Some noted that teaching communication skills improved their own patient interactions.

- A few trainers mentioned that mentoring junior staff during the program helped foster a culture of teamwork and knowledge-sharing.

4. Recommendations for Future Training

- Trainer Capacity-Building: Periodic training-of-trainers (ToT) workshops to enhance facilitation skills.

- Better Institutional Support: Allocating protected time for trainers to focus on teaching without disrupting clinical duties.

- Standardized Teaching Resources: Providing customized training materials and an online repository of teaching aids.

- Improved Assessment Mechanisms: Implementing structured feedback tools to measure both trainer effectiveness and participant progress.

The trainers recognized the TANQuEST program's positive impact in enhancing communication skills among healthcare professionals. However, time constraints, resource limitations, and the need for faculty development were significant challenges. Addressing these issues through institutional support, enhanced teaching resources, and periodic refresher training will improve the program's sustainability and effectiveness.

Chapter 4. Discussion

The study evaluated the effectiveness of the "Effective Health Care Communication Training" under the Tamil Nadu Quality Enhanced Structured Training Program (TAN-QuEST). The findings indicate that the training significantly improved the communication skills of healthcare professionals, including doctors, staff nurses, paramedical workers, and support staff at Tirunelveli Medical College.

1272 health care workers were trained on "Effective Health Care Communication Training" over a period of 6 months. Completion rates were 100 % because of the strong administrative support and mandate it got. Attendance was made as compulsory and the training status was entered in service register which resulted in full participation. Looking at the proportion of different cadres trained, the proportion was less than the target for paramedical and supporting staff as they are involved in essential services and couldn't replace their services. Kirkpatrick model was used to evaluate the perceived effectiveness of training programme. Pre and post test questionnaire were used to measure the learning component. A significant improvement was noted in pre- and post-training test scores across all groups. Doctors' mean pre-test score was 11.18 (SD: 2.7), increasing to 14.3 (SD: 2.4) post-training (p<0.001). Staff nurses and paramedical workers also showed statistically significant improvements.

CDC post training evaluation (14) was used to assess the learning component. Follow-up CDC post training evaluation was also used to assess the learning post training after one month. 97.9% of doctors and 89% of nurses reported they would use the skills learned in training in their daily practice. Before training, only 12.3% of doctors and 8.2% of nurses rated themselves as very knowledgeable about effective communication. Post-training, this increased to 56.1% for doctors and 51% for nurses. The odds ratio for doctors' perception of their ability to communicate effectively improved 11.5 times post-training, while for nurses, it improved 83 times(p<0.05) and it was statistically significant. One month post-training, 95% of participants reported actively using their newly acquired communication skills in practice. The study aligns with global findings that structured communication training significantly enhances healthcare professionals' abilities to interact with patients and colleagues.(2,9,11,15,16).

The Kirkpatrick model used in this study demonstrated effective learning outcomes similar to previous research on healthcare training programs. However, unlike some studies that focus on short-term learning outcomes, this study included a one-month follow-up, showing sustained knowledge retention and application(7,10,13,17)

4.1 SWOT analysis:

Figure 22: SWOT analysis

- Felt need/relavant /practical
- Delivery and good execution
- Good participation
- Effective in improving perception and knowledge,skills
- Significant adoption
- (after 1 month)

Strength

Weakness

- Content
- Timings
- Faculty
- Evaluation methods

Opportunities

- Wonderful delivery model
- Can be used to train all cadre of people
- Similar to " NAAN MUTHALVAN" scheme

Threats

- Behavioural change-challenging
- Sustainability

Chapter 5: Conclusion and Recommendations

5.1 Summary of Findings:

- The key findings from the study are as follows:

- Training Participation and Completion

  - A total of 1,272 healthcare professionals participated, surpassing the initial target of 1,250.

  - Completion rates were highest among doctors and staff nurses, while paramedical workers and support staff had slightly lower participation.

  - The training sessions maintained high engagement, with structured schedules and interactive learning components.

- Effectiveness of Training

  - A significant improvement was noted in pre- and post-training test scores across all groups.

  - Doctors' mean pre-test score was 11.18 (SD: 2.7), increasing to 14.3 (SD: 2.4) post-training ($p<0.001$).

  - Staff nurses and paramedical workers also showed statistically significant improvements.

  - 97.9% of doctors and 89% of nurses reported they would use the skills learned in training in their daily practice.

- Perception and Feedback

  - 95% of doctors and 94% of nurses felt that the course was highly relevant to their professional work.

  - Participants appreciated the role-playing and case scenario exercises, which enhanced their understanding of patient interactions.

- Some participants suggested that the training be integrated into medical and nursing curricula for better long-term impact.

- Barriers and Challenges
  - Trainers faced difficulties in balancing regular clinical duties with training responsibilities.
  - Some participants felt that the training was too theoretical and suggested increasing practical components.
  - Audio-visual aids were useful but needed further refinement to improve clarity and accessibility.

- Trainer Perspectives
  - Trainers reported increased confidence in delivering communication-focused sessions.
  - The need for further capacity-building workshops for trainers was highlighted.
  - Trainers recommended periodic refresher courses and better institutional support to sustain training quality.

5.2 Conclusion

Overall, the **The Effective Health Care Communication Training Program** was well-received, and participants demonstrated significant improvements in communication skills.

The TANQuEST initiative successfully established a structured training process, covering everything from topic selection and content creation to course delivery and feedback integration.

Reduces, if not completely eliminates, disruption for trainers and trainees by seamlessly integrating the training process into the intended workplace.

Effectively coordinates and optimizes existing resources at our Medical College Hospitals and District Training Centres to develop a robust, efficient training model that serves as a "One-Stop

Solution" for the training needs of all future programs.

To sustain and scale the initiative, periodic refresher training, faculty development, and integration into formal medical education should be prioritized.

Future research should assess the long-term impact of training on patient satisfaction and healthcare outcomes.

5.3 Recommendations:

TANQuEST serves as a proven platform, akin to **'NAAN MUTHALVAN,'** for enhancing the skills of healthcare workers.

The Effective Health Care Communication Training Program can be implemented in other institutions after addressing the identified concerns.

Additionally, the TANQuEST platform can be leveraged to deliver and standardize skill development programs in medical institutes.

Basic-level training through self-learning from a web portal, combined with minimal hands-on practice on weekends, aligns well with modern work culture and adult learning principles.

5.4 Limitation of the Study:

Behavioral change is shaped by multiple factors, and training alone may not be sufficient to achieve the desired transformation.

Though the majority of the participants used the skills learned during the training programme in their day-to-day life at one month (as shown in CDC follow up survey) sustainability can't be assured.

Further studies like patient satisfaction survey should be done to know the real change in behaviour of health care workers which can serve as surrogate marker.

5.5 Policy Implications:

The findings suggest that structured, competency-based training in healthcare communication is essential for improving patient care.

The need for institutionalizing continuous professional development (CPD) programs across medical colleges.

Integration of communication skills training into undergraduate and postgraduate medical curricula.

Expansion of TAN-QuEST to other institutions with improved monitoring and evaluation mechanisms.

Development of digital learning modules for greater accessibility and flexibility.

5.6 Future Research Directions:

Long-Term Impact on Patient Outcomes

Conduct follow-up studies to assess whether improvements in healthcare communication skills translate into better patient satisfaction and health outcomes over time.

Behavioral Change and Retention of Skills

Investigate how long the communication skills acquired during training are retained and effectively used in clinical practice.

Study factors that influence sustained behavioral change in healthcare professionals.

Comparison of Training Methods

Compare the effectiveness of different training modalities, such as online, hybrid, and in-person training, in improving communication skills.

Assess whether blended learning approaches (e-learning + practical workshops) enhance skill acquisition and retention.

Integration into Medical and Nursing Curricula

Explore the feasibility and effectiveness of incorporating structured communication training into undergraduate and postgraduate medical and nursing education.

Assess the impact of early exposure to communication training on professional competency development.

Barriers to Implementation in Different Healthcare Settings

Study the challenges faced in implementing similar training programs in rural and resource-limited healthcare settings.

Identify strategies to overcome institutional and systemic barriers to effective communication training.

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Annexure 1: Gantt chart:

Activities	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8
Recruitment	■							
Training of workers	■							
Data collection		■	■	■	■			
Data analysis					■	■	■	■
Report writing & dissemination						■	■	■

Annexure 2: Budget

Head	Cost per unit	No. of units	No. of months	Total amount (Rs)
1. Staff:				
Project Technical Assistant	31,000	3	6	5,76,000
Field worker/Junior nurse	18,000	3	6	3,24,000
Data entry operator	18,000	1	6	1,08,000
Recruitment	50,000	1		50000
Total				**10,44,800**
2.Contingency (Recurring)				
Training	300	69	1	20,700
Internet connectivity expenses		3	6	1,08,000
Printing/Photocopies/training	30000	1	6	1,80,000
Desktop Computer	1,25,298	1	-	1,25,298

Tablet for data capturing	24000	3		72,000
Total				
3.Travel allowance				
Travel expenses for project related	**30000**	**3**	6	5,40,000
Total				10,45,998
GRAND TOTAL (1+2+3)				**20,90,798**

Budget Justification:

1.Project Technical Assistant will be responsible for data collection, co-coordinating, planning, documentation, and supervising implementation of the project at the study site. will help in conducting pre and post-test, end assessment during the training sessions and help in arranging group discussion. They will also transcribe and code the data. He/ She will be responsible for administrative functions as well, to conduct joint meetings related to the project, and periodic reporting to the PI.

2.The Field worker/Junior nurse will help in conducting pre and post-test, end assessment during the training sessions and help in arranging group discussion. They will also transcribe and code the data.

3.Data entry operator will also transcribe and code the data. He/ She will enter and data in Microsoft Excel and quality check the data for errors. He/ She will coordinate the administrative responsibilities related to the project implementation also.

Annexure 3:
CDC Post-course Training Evaluation

1. How relevant is this course to your current work?
o   Not at all relevant
o   Slightly relevant
o   Moderately relevant
o   Very relevant
o   Extremely relevant

2. Will you use what you learned in this course in your work?
o   Definitely not
o   Probably not
o   Possibly
o   Probably will
o   Definitely will
o   Not applicable, I did not learn anything new from this course

3. How will you use what you learned from this course? I will: (select all that apply)
□   Maintain my competence
□   Increase my competence
□   Improve my performance
□   Provide interventions in practice
□   Develop strategies I can use in practice
□   Other, please specify:
□   Not applicable, I did not learn from this course
□   Not applicable, I do not plan to use anything from this course

4. What, if anything, do you plan to use from this course? (Short answer)

5. What factors will keep you from using the content of this course in your work? Select all that apply.
□   None, I will use this content in my work
□   I need additional training in the subject matter
□   I will not have the resources I need in my workplace
□   I will not be provided opportunities to use what I learned
□   I will not have the time to use what I learned
□   My supervisor will not support me in using what I learned
□   My colleagues will not support me in using what I learned
□   The course content is not relevant to my current work
□   Other, please specify:

6. How will your team benefit because of what you learned? I will: (select all that apply)

□ provide better communication across my interprofessional team(s) (any team with people from different professions)

□ share information with colleagues to improve client services

□ identify changes needed in practice

□ increase participation in shared decision making across my interprofessional team(s) (any team with people from different professions)

□ Other, please specify:

□ Not applicable, I did not learn from the course and/or it will not benefit my team

7. Rate your knowledge of (or skill in) [learning objective] **before the course**. [Insert learning objective. Question may be duplicated for additional learning objectives.]

o Not at all knowledgeable or skilled

o Slightly knowledgeable or skilled

o Moderately knowledgeable or skilled

o Very knowledgeable or skilled

o Extremely knowledgeable or skilled

8. Rate your knowledge of (or skill in) [learning objective] now **after the course**. [Insert learning objective. Question may be duplicated for additional learning objectives.]

o Not at all knowledgeable or skilled

o Slightly knowledgeable or skilled

o Moderately knowledgeable or skilled

o Very knowledgeable or skilled

o Extremely knowledgeable or skilled

9. Was the course's content relevant to the learning objective(s): [learning objective(s)]? [Insert learning objectives.]

o Yes

o No

10. What is your opinion of the balance of instruction and interactive learning in this course? Examples of interactive learning include knowledge checks, case studies, question & answer sessions, exercises, etc.

o Too much instruction and not enough interactive learning

o Right amount of both instruction and interactive learning

o Too much interactive learning and not enough instruction

11. The instructional strategies (e.g., lecture, case studies, figures, tables, or media) helped me learn.

o Strongly disagree

o Disagree

o Neutral

o   Agree
o   Strongly agree

12.   The content expert(s)/the presenter(s)/the author(s) presented the content effectively. [Modify this question according to the format of the training. For enduring activities (online courses, web-on-demand, phone apps), use "The content expert(s)." For live activities (conferences, workshops, webcasts), insert presenter name. For journal activities, insert author name. Question may be duplicated for additional presenters/authors.]
o   Strongly disagree
o   Disagree
o   Neutral
o   Agree
o   Strongly agree

13.   What part of this course was most helpful to your learning? (Short answer)

14.   How could this course be improved to make it a more effective learning experience? (Short answer)

15.   Did the course's content address a need in your professional practice?
o   Yes
o   No
o   Not sure

16.   Was the learning environment conducive to learning? [This question is only recommended for in-person events.]
o   Yes
o   No

17.   How did you hear about this course? Please select all that apply.
□   Website, please specify:
□   Search on [virtual learning platform] [If training was presented in a Learning Management System (LMS), such as CDC TRAIN, insert virtual learning platform name here.]
□   Search on Google or another search engine
□   Social Media, please specify:
□   E-newsletter, please specify:
□   A presentation, please specify:
□   A referral from a colleague, peer, supervisor, or organization
□   Required by my organization
□   Other, please specify:

18.   Did the course meet your expectations based on reading the course's description?
o   Yes

o   Somewhat
o   No
o   Not applicable; I did not read the course's description

19.   How likely are you to recommend this course to someone else?
o   Not at all likely
o   Somewhat likely
o   Very likely

20.   What other topic(s) related to this course would you like to learn more about? (Short answer)

21.   What challenges, if any, did you experience when using the [Learning Management System (LMS)]? Think about the [Learning Management System (LMS)] overall, not the specific course that you completed. Please select all that apply. [If training was presented in a Learning Management System (LMS), such as CDC TRAIN, insert virtual learning platform name here.]
□   Creating a [LMS] account
□   Finding the course
□   Registering for the course
□   Launching the course
□   Completing this postcourse evaluation
□   Obtaining technical assistance and support
□   Other, please specify:
□   Not applicable; I did not experience any challenges using the [LMS]

22.   What additional features would you like to see in [Learning Management System (LMS)]? [If training was presented in a virtual learning platform, such as CDC TRAIN, insert virtual learning platform name here.]
23.   What is your primary profession? Please select one answer.
o   Administration or operations professional
o   Behavioral health professional
o   Laboratory professional
o   Community health worker
o   Emergency preparedness professional
o   Environmental health worker
o   Epidemiologist
o   Evaluator
o   Health communicator or public information specialist
o   Health educator
o   Teacher or instructor
o   Librarian
o   Nurse
o   Oral health professional
o   Pharmacist or pharmacy technician

- o   Physician
- o   Physician assistant
- o   Social worker
- o   Statistician
- o   Student
- o   Veterinarian
- o   No longer in the workforce (e.g., retired, disabled)
- o   Other, please specify:

24.   What is your primary job setting or affiliation? Please select one answer.
- o   Clinical laboratory
- o   Federal agency
- o   Hospital, medical center, or clinic
- o   Local government
- o   Long-term care or skilled nursing facility
- o   Pharmacy
- o   Private for-profit business
- o   Private industry
- o   Private nonprofit organization or foundation
- o   Public health laboratory
- o   School or university
- o   State government
- o   Territorial government
- o   Tribal government
- o   Other, please specify:

25.   How many years have you worked in your current profession?
- o   Less than 1 year
- o   1–5 years
- o   6–10 years
- o   11–15 years
- o   16–20 years
- o   21 years or more
- o   No longer in the workforce

26.   Do you feel this course was free of commercial bias or influence?
- o   Yes
- o   No

27.   If you answered No, please explain. [Only included if learner responds *No* to Q26]

Annexure 4:

CDC Follow up Training Evaluation

1.   Did you use anything you learned in this course in your work?
- Yes
- No

2.   What factors kept you from using the content of this course in your work? Please select all that apply.
- None, I have used this content in my work
- I need additional training in the subject matter
- I did not remember the course content well enough to use it
- I did not have the resources I needed in my workplace
- I did not have the opportunities to use what I learned
- I did not have the time to use what I learned
- My supervisor did not support me in using what I learned
- My colleagues did not support me in using what I learned
- The course content was not relevant to my work
- Other, please specify:

3.   What factors helped you use the content of this course in your work? Please select all that apply.
- I had reminders (e.g., job aids, tip sheets, or emails) of key learning concepts or skills
- I had the resources I needed in my workplace
- I had opportunities to apply what I learned
- My supervisor supported me in using what I learned
- My colleagues supported me in using what I learned
- Other, please specify:
- Not applicable, I did not use what I learned in this course in my work

4.   What, if anything, did you use from this course? (Short answer)

5.   As a result of this course, I have: (select all that apply)
- Not improved
- Maintained my competence
- Increased my competence
- Improved my performance
- Provided clinical interventions in practice
- Developed strategies I use in practice
- Other, please specify:
- Not applicable, I did not use anything from this course
6.   How did you benefit your team because of what you learned? (select all that apply)

- I provided better communication across my interprofessional team(s) (any team with people from different professions)
- I shared information with colleagues to improve patient education
- I identified changes needed in practice
- I increased participation in shared decision-making across my interprofessional team(s) (any team with people from different professions)
- Other, please specify:
- Not applicable, I did not learn from the course and/or it will not benefit my team
7. Have you recommended this course to anyone else?
- Yes
- No