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The Effectiveness Of Training In Developing Clinical Empathy Skills Among Undergraduate Nursing Students

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Abstract

Background: *An increasingly important prerequisite for nursing students' emotional stability, well-being, and patient-centered care is understanding their compassion and empathy. \ Nursing students who lack the skill to provide empathy when providing patient care become stuck or unsure about what to do in specific clinical circumstances. Empathy training is required to build their attitudes.*

Objectives: *The study assesses how well empathy training influences undergraduate nursing students' clinical empathy.*

Method: *A quantitative pre-experimental methodology with an experimental one-group pretest post-test time series design was adopted in this study. The personality traits of each participant were assessed along with socio-demographic variables. Jefferson's empathy scale for health professional students was chosen to evaluate the students' empathy abilities.*

Results: *Male, female ratio was 1:4. 56% of students had an intention to work as a bedside nurse. The difference is statistically significant when comparing the pre-test and the post-test values ($p<0.001$). The empathy level was significantly correlated ($p<0.05$) with age, gender, family type, income, and birth order.*

Conclusion: *Nursing students improved their clinical empathy skills with empathy training. Strengthening empathy education into curricula would improve patient-centered care, reduce malpractice risk, and increase patient satisfaction.*

Keywords: *Empathy, Clinical Empathy skills, Undergraduate nursing students, Empathy training*

BACKGROUND

Nursing is a healthcare profession that helps people, families, and communities reach, preserve, or regain optimal health[1]. Nursing students often provide patient care as part of their clinical nursing practice in a hospital. Negative behaviors such as fear, incapacity, helplessness, worry, melancholy, low self-esteem, inability to control emotions, and failure to protect patient privacy may indicate that students are not prepared to care for patients[2]. Many elements, such as cultural influences, emotional regulation experience, feeling under pressure, and neglecting to use therapeutic communication skills, shape the viewpoints of nursing students[3]. Understanding others' emotions, experiencing those emotions, and then reacting to those feelings are all considered components of clinical empathy[4]. Empathy enhances the effectiveness of a patient's treatment and care[5,6].

A critical element of providing compassionate nursing care is empathy. It has a favorable relationship with nurses' professional demeanor, self-efficacy, and clinical communication skills. It is also the capacity to view the world from another person's perspective. Nursing students' job happiness may also be impacted[7]. Furthermore, empathy can promote nursing students' inclination towards empathy and enhance their emotional intelligence[6]. According to this definition, empathy is the capacity to transmit understanding as well as the capacity to comprehend rather than feel[8].

The concept of empathy is multifaceted, encompassing relational, emotional, cognitive, moral, and behavioral aspects. A previous study conducted by Kataoka et al in 2019 reported that students' total scores on empathy and its two factors, Perspective Taking and Compassionate Care were increased significantly ($p < 0.001$) after participation in the communication skills training program[9]. By supporting patients' emotional states, raising their awareness of their feelings, and establishing a connection between them and the social environment, empathy offers the chance to enhance social interactions. This empathetic ability enhances the caliber of interpersonal connections[6].

Empathetic nurses can better understand their patients' needs, which can help patients feel more comfortable sharing their concerns[10,11].

A 10-month quasi-experimental study including 250 nursing students evaluated the efficacy of empathy in clinical education utilizing the Knowledge, Simulation, and Sharing (KSS) module on empathy learning. The experimental group's communication abilities considerably improved following the training, with a mean of 90.22, significance at $p = .042$. Experimental groups had significantly higher empathy scores than the control group (114.57 versus 110.36; $p = .016$)[12]. Favorable treatment results and enhanced nurses' adaptation in educational and therapeutic environments, and influenced nurses' moral sensitivity are all influenced by an empathetic interaction between the nurse and the patient[11].

Greater empathy is associated with improved clinical outcomes[12] and patients who experience empathy during their treatment exhibit better results and a higher possibility for potential improvement. This helps the patients be more satisfied, reduces the distance between care provider and patient, and both enjoy mutual benefits [11,13, 14].

Many studies have pointed out the necessity for future professionals to receive training to increase nurses' capacity for empathy, improving their social and psychological competence[15,16]. The empathy skills training had a significant impact on students' mean empathy scores and attitudes toward older persons, according to the findings of a prior study ($p < 0.001$)[17]. Instruction through guided reflection and video role-playing increased caring behavior significantly and was strongly correlated with increased nursing student competency scores ($\beta = 0.81$, 95% CI:0.66–0.97)[19].

Many reviews also projected the available evidence of the effectiveness of clinical empathy in general practice and clinical empathy skill training among health professionals[20,21]. Between July 1995 and July 2011, a systematic review of the usefulness of medical empathy in general practice was published. After performing a quality assessment, seven of the 964 original studies that were chosen were included in the study. Patient satisfaction and physician empathy were positively correlated, and there was also a favourable association between patient health and physician empathy[7].

Indian Nursing Council revised curriculum has added soft skills in the syllabus as it is vital for empowering future nurses[24]. It is important to improve clinical empathy skills among undergraduate nursing students, hence, the researchers intended to carry out empathy training. The study's objectives were to assess the empathy level, create a module that would teach undergraduate nursing students, and further examine the effectiveness of empathy training.

MATERIALS AND METHODS

Based on the research question, does empathy training improve clinical empathy skills among nursing students? The investigators searched online research databases and registries for publications utilizing cutting-edge techniques to raise nursing students' clinical empathy skills. This study adopted a quantitative approach with a pre-experimental one-group pretest post-test time series design. The study was conducted with a purposive sampling technique among 100 first-year B. Sc Nursing students of a College of Nursing in South India.

Socio-demographic variables included age, gender, area of living, previous experience of caring for patients, interested working area after graduation, and personality traits of each participant were assessed. Jefferson Scale of Empathy- Health Providers (JSE-HPs) was used after obtaining permission from Thomas Jefferson University. Pre-test empathy was assessed in the 2nd, 4th, and 6th week before intervention.

A self-constructed clinical empathy training module was developed and validated by 5 experts. The module included lectures, simulation-based training, activities, self-reflection practices, and follow-up sessions. Three sessions of Empathy training in a week (alternative days) were conducted, and a follow-up intervention was given after 1st post-test. A post-test was administered in the 2nd, 4th, and 6th weeks. The obtained data was entered into an Excel sheet, and completed data were coded and statistically analysed using SPSS 27 software, with logical conclusions drawn.

RESULTS

Table 1: Distribution based on demographic characteristics of the participants n=100

Demographic Characteristics	f	%

AGE		
17-19 Years	83	83
20-22 Years	16	16
> 22 Years	1	1
GENDER		
Male	20	20
Female	80	80
AREA OF LIVING		
Rural	56	56
Urban	44	44
FAMILY INCOME		
<10,000 INR	45	45
20,000 - 30,000 INR	25	25
30,000 -40,000 INR	13	13
> 40,000 INR	17	17
BIRTH ORDER		
Youngest	33	33
Middle one	6	6
Eldest one	61	61
BLOOD GROUP		
A +Ve	28	28
B + Ve	22	22
O + Ve	41	41
O -Ve	3	3
AB + Ve	5	5
A -Ve	1	1

Table 1 shows that the majority (80%) of the participants were females, 83% were 17-19 years of age, 53% were from a rural area, and 45% with a family income < 10,000 INR/ month.

Distribution based on previous experience of being hospitalized n=100

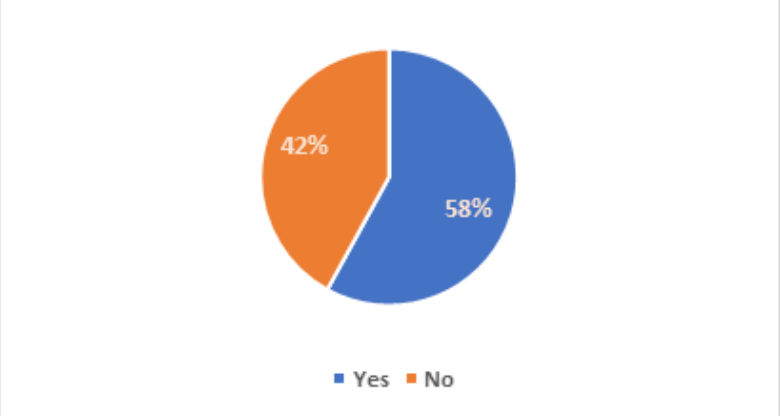

Fig 1: Distribution based on previous experience of being hospitalized

Fig 1 shows that more than half of the participants (58%) had a previous experience of being hospitalized.

Table 2: Personality Traits of Samples n=100

Sl No:	Personality Traits	Yes	No
		%	%
1a.	Enjoy being the center of attention	64%	36%
1b.	Like to start conversations	81%	19%
1c.	Enjoy meeting new people	94%	6%
1d.	A wide social circle of friends and acquaintances	67%	33%
1e.	Easy to make new friends	65%	35%
1f.	Feel energized when around other people	83%	17%
1g.	Say things before thinking about them	50%	50%

2 a	Very creative in nature	69%	31%
2b.	Open to trying new things	96%	4%
2c.	Focused on tackling new challenges	47%	53%
2d.	Happy to think about abstract concepts	66%	34%
3a.	Organized and spent time preparing a schedule	68%	32%
3b.	Finish the important task without delay	85%	15%
3c.	Pay attention to things in detail	90%	10%
3d.	Enjoy having a set schedule	88%	12%
4a.	A great deal of interest in other people	58%	42%
4b.	Care about others	94%	6%
4c.	Feel empathy and concern for other people	95%	5%
4d.	Enjoy helping and contributing to the happiness of other people	99%	1%
4f.	Assist others who need help	99%	1%
5a.	Experience a lot of stress	60%	40%
5b.	Worry about many different things	74%	26%
5c.	Get upset easily	66%	34%
5d.	Experience dramatic shifts in the mood	68%	32%
5f.	Feel anxious in the clinical area	80%	22%
5g.	Struggle to bounce back after stressful events	62%	38%

Table 2 denotes the personality traits of the participants. More than 95% of participants cared about others, felt empathy and concern about others, and enjoyed or assisted in helping and contributing to the happiness of others. More than 60% had stress and anxiety, became upset, had dramatic moods, and struggled to go back to normal after stress.

Table 3: Comparison of Pretest and Post-test empathy scores

	Mean	**SD**	**Minimum**	**Maximum**	**50th (Median)**	**Mean Rank**	**χ2**	**df**	**P value**
pretest 1	2.23	.874	1	4	2.00	2.01	457.088	5	0.001 *
Post-test 1	3.28	.780	1	4	3.00	4.83			
pretest 2	2.24	.866	1	4	2.00	2.02			
Post-test 2	3.32	.709	2	4	3.00	4.93			
pretest 3	2.38	.801	1	4	2.00	2.26			
Post-test 3	3.34	.685	2	4	3.00	4.96			

Friedman Test (*p<0.05 levels of significance)

Table 3 compares the repeated measures of pretest and post-test scores showing a statistically significant increase in the empathy score, $\chi^2 = 457.088$, $p < 0.001$.

Table 4: Effectiveness of the teaching module on the empathy scores

	Negative Ranks	**Positive Ranks**	**Ties**	**Z value**	**Level of significance**
Post test 1 - pretest 1	0	93	7	-9.540	0.001*
Post test 2 - pretest 2	0	93	7	-9.540	0.001*
Post test 3 - pretest 3	0	94	6	-9.592	0.001*

Wilcoxon Sign Test (*p<0.05 significant)

Table 4 shows the pretest and the post-test median were 2 and 3, respectively and the findings indicate that the difference is statistically significant (p<0.001). The mean (±SD) was 2.23 (0.874) at pretest 1, post-test 1 was 3.32 (0.709), and 3.34 (0.685) at post-test 3. A significant increase was seen between post-test 1 and pretest 1 (Z = 9.540, p = 0.001), between post-test 2 and pretest 2 (Z = 9.540, p = 0.001) and between post-test 3 and pretest 3 (Z = 9.592, p = 0.001).

Effectiveness of the clinical empathy training on the empathy scores n=100

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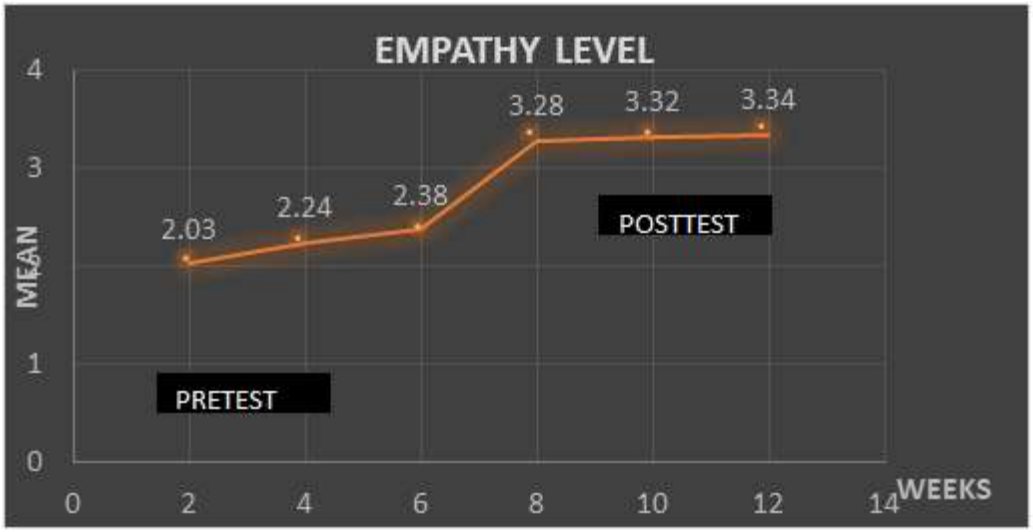

***Friedman's test-significant increase in the empathy score ($p < 0.001$)**

Fig 2: Effectiveness of the clinical empathy training on the empathy scores

Figure 2 illustrates the difference in pretest and post-test mean scores. The mean pretest score was 2.2 with SD of 0.847 post-test score was 3.3 with an SD of 0.725.

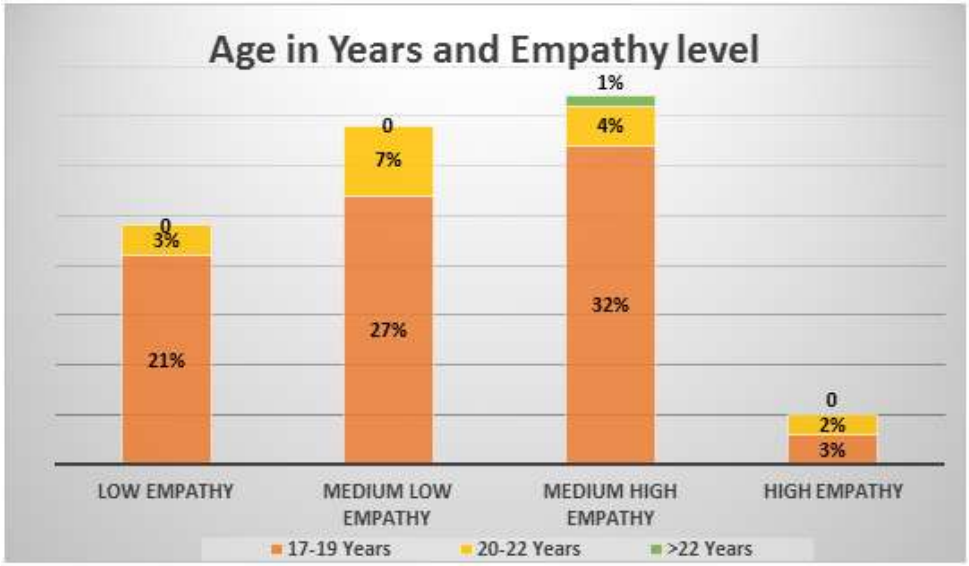

Fig 3: Distribution of age in years and Empathy level

Figure 3 depicts that 48% of participants in the age group 17-19 years had low empathy scores, whereas 35% had high empathy scores in the pretest.

Table 5: Association between demographic characteristics and the empathy scores n=100

Variables	Pretest 1				χ^2	df	P value
	Low Empathy	Medium Low Empathy	Medium High Empathy	High Empathy			
Age in Years 17-19 Years	21	27	32	3	114.380	2	0.001*
20-22 Years	3	7	4	2			
> 22 Years	0	0	1	0			
Gender male	1	5	8	6	36.000	1	0.001*
Female	1	9	30	40			
Area of living Rural	17	17	19	3	1.440	1	0.230
Urban	7	17	18	2			

Family type Nuclear family	21	30	33	5	140.660	2	0.001*
Joint family	3	4	3	0			
Extended family	0	0	1	0			
Family income <10,000 INR	14	19	9	3	24.320	3	0.001*
20,000 - 30,000 INR	4	6	15	0			
30,000 -40,000 INR	1	4	7	1			
> 40,000 INR	5	5	6	1			
Birth order Youngest	9	16	7	1	45.380	2	0.001*
Middle one	0	1	4	1			
Eldest one	15	17	26	3			
Blood group A +Ve	7	10	11	0	8.658	15	0.895
B + Ve	6	5	9	2			
O + Ve	9	15	14	3			
O -Ve	0	1	2	0			
AB + Ve	2	2	1	0			
A -Ve	0	1	0	0			

*p<0.05 level of significance

A significant association (p<0.05) is noted between age, gender, family type, family income, and birth order with the empathy scores, which was illustrated in Table 5.

Table 6: Association between demographic characteristics and the factors influencing empathy scores

n=100

Variables	Pretest 1				χ2	df	P value
	Low Empathy	Medium Low Empathy	Medium High Empathy	High Empathy			
Have you ever been admitted to the hospital? Yes	15	21	18	4	2.71	3	0.437
No	9	13	19	1			
Have you ever nursed or taken care of any sick person at home or hospital prior to joining this course? Yes	15	19	18	2	1.56	3	0.667
No	9	15	19	3			
Do you intend to work as a bedside nurse after graduation? Yes	17	19	16	4	5.75	3	0.124
No	7	15	21	1			

*p<0.05 level of significance

According to Table 6, no significant association was noted between demographic characteristics and the factors influencing empathy scores.

DISCUSSION

In the present study, around half (53%) of the participants were from a rural area, and 45% had a family income of more than 10,000 INR/ month. The report of a previously done Meta-analysis showed that females have a higher empathy ability than males, and the empathy ability of rural students is higher than that of provincial students[24]. But in a similar study, the majority (95.7%) were from an urban background, and their family income ranged from Rs. 1666/- to Rs. 12500/- with a mean income INR 6078 ± 2756.50[5].

People with the B blood type are thoughtful and empathetic towards others and make good and reliable

friends[25]. A study in 2017 reported that students who have the AB+ blood group scored higher on empathy and emotional stability[25]. However, in this current study, no association was found between the blood group and empathy skills among nursing students.

A significant association ($p<0.05$) is noted between age, gender, family type, family income, and birth order with the empathy scores. However, in a similar study conducted among nursing students in Kerala, the association between empathy and selected socio-demographic variables was computed, and only age had a significant association with empathy at 0.05 levels. Regarding the association between the empathy score and gender, almost all research shows that women have much higher empathy than men do[9,11]. This study also replicated the same results.

Personality, as a stable psychological quality, plays an important role *in students*' academic achievements[26]. Nursing students may encounter various academic stressors throughout their studies[27]. Eighty-five percent of the participants had average self-esteem in a study among nursing students[27]. Several studies have been conducted to assess the personality traits of nursing students to understand their relationship with stress and anxiety in academics and clinical practice[29].

In this current study, personality traits were assessed as baseline data. 94% of participants enjoyed meeting new people, 83% felt energized around other people, 90% paid attention to details, and 88% enjoyed having a set schedule. More than 95% of participants cared about others, felt empathy and concern about others, and enjoyed or assisted in helping and contributing to the happiness of others. 60% experienced a lot of stress, 74% worried about many different things, 66% got upset daily, 68% experienced dramatic mood, and 80% of study participants felt anxious about the clinical area. However, 62% struggled to bounce back after stressful events.

In a previous study conducted among nursing students during their internship in 2018, there was an increase in the number of participants with high levels of empathy from 23.9% at the beginning to 29.6% at the midway point and 28.3%. at the end of the internship, but the increase was not statistically significant ($P > 0.01$)[5]. But at the beginning of the current study, in pretest 1, 58% had low empathy scores, and 42 % had high empathy scores, whereas during post-test 3, 12% had low and 88% had high empathy scores.

Comparing the pretest and the post-test median was 2 and 3, respectively, the findings indicate that the difference is statistically significant ($p<0.001$) and the difference between post-test 3 and pretest 3 ($Z = 9.592$, $p = 0.001$). The results are consistent with the previous studies[11,26]. According to a previous study, nursing students employed various dynamic learning techniques during their education[19]. Empathy skill training considerably positively impacted attitude scores and empathy ratings in a similar study conducted among nursing students[17]. A comparative study conducted in 2016 to evaluate the effectiveness of empathy skill training among nursing students indicated that the experimental group scored significantly higher than the control group in the post-test ($P = 0.270$ and $P = 0.015$, respectively)[30].

Empathy skill training in this current study also reports a significant effect on empathy levels among students with a difference in mean pretest score of 2.2 and post-test score of 3.3. It seems that the learning contents in the training alongside encouraging active learning and valuing students' ideas, experiences, and reflection on patient care contributed to the positive findings. The findings of the present study are in agreement with those of other studies that used different interventions[31,32].

The null hypothesis was, that there is no significant difference in the mean pre and post-test levels of clinical empathy among undergraduate nursing students. was rejected. Hence, empathy training is effective for nursing students to improve their clinical empathy skills. A similar finding was reported in previous studies[33,34,35]

CONCLUSION

Positive changes in nurse-patient relationships and the increased focus on medical ethics can be attributed to high levels of education that emphasize empathetic ties with the patient. Nursing students' empathy can be substantially enhanced by training. If they receive appropriate training, aspiring nurses will be more content and at ease as healthcare carer. Effective communication in a therapeutic and professional relationship is facilitated by listening to the patient with civility, respect, and kindness; earning the patient's trust through honesty, secrecy, and empathy rather than compassion; being competent and goal-oriented in the delivery of care; and being patient-centered.

Empathy training programs are helpful steps in enhancing nurse-patient relationships because they

influence healthcare communication. The current training intervention demonstrated how empathy training improves nurses' empathy abilities.

RECOMMENDATION

Life Skill

One of the most important life skills that a student can acquire is empathy. It fosters compassion, tolerance, and improved communication by enabling individuals to empathize with and comprehend the emotions of others. Strongly empathetic students typically establish better connections, collaborate more effectively, and resolve problems more thoughtfully, all of which are essential nowadays.

Nursing Education

Nursing students must control their emotional empathy and have strong cognitive empathy, which involves emotional self-regulation, which helps them in academics. Empathy skill will drastically enhance clinical outcomes in the students' period and continue to improve till they complete their studies. These skills will be helpful for them when working as nursing professionals

Nursing Practice

Effective empathy training can improve nurses' ability to diagnose and treat patients and communicate with one another and the patients. Effective measures that nurses can take to apply their empathy abilities can improve the standard of nursing care.

Nursing Research

Extensive research into patients' experiences receiving care from a healthcare professional or student who has completed empathy training would be valuable in increasing knowledge of the effects of training.

Nursing Policy

It is recommended that policymakers at nursing education institutions utilize other study findings including the current study's report to give more focus on empathy skills instruction in undergraduate nursing curricula to enhance empathy and prevent its decline over the years. The study recommended that a sustainable program rather than a single

Limitations

The study was limited to a single setting. A bigger sample size would have highlighted the differences in empathy between the two study groups and/or within each group. Nursing students' empathic tendencies vary across stages of their education and can be investigated by comparing students from different years of study. More objective evaluations, including those that gauge students' capacity for empathy and readiness to assist the patients, may more effectively disclose research findings and the practical application of what they have learned.

REFERENCES

1. Lalisa Ayele Woldasemayat, Leul Mekonnen Zeru, Asresash Demissie Abathun, Perception towards nursing profession and associated factors among patients at Jimma Medical Center, Ethiopia. A cross-sectional study, International Journal of Africa Nursing Sciences, Volume 17, 2022, 100445, ISSN 2214-1391, https://doi.org/10.1016/j.ijans.2022.100445.
2. Weurlander M, Lönn A, Seeberger A, Broberger E, Hult H, Wernerson A. How do medical and nursing students experience emotional challenges during clinical placements? Int J Med Educ. 2018 Mar 27; 9:74-82. doi: 10.5116/ijme.5a88.1f80. PMID: 29587248; PMCID: PMC5952306.
3. Abdolrahimi M, Ghiyasvandian S, Zakerimoghadam M, Ebadi A. Therapeutic communication in nursing students: A Walker & Avant concept analysis. Electron Physician. 2017 Aug 25;9(8):4968-4977. doi: 10.19082/4968. PMID: 28979730; PMCID: PMC5614280.
4. Finset A. Emotions, narratives and empathy in clinical communication. International Journal of Integrated Care. 2010;10(5): None. DOI: http://doi.org/10.5334/ijic.490.
5. Kaur Sukhpal, Saini Sushma, Waia Indarjit, Assessment of level of empathy among nursing students during internship, Indian Journal of Social Psychiatry, 2018; 34;1;57-61.
6. Hajibabaee, Fatemeh & Farahani, Mansoureh & Ameri, Zahra & Salehi, Tahmine & Hosseini, Agha. (2018). The relationship between empathy and emotional intelligence among Iranian nursing students. International Journal of Medical Education. 9. 239-243. 10.5116/ijme. 5b83.e2a5.
7. Moudatsou M, Stavropoulou A, Philalithis A, Koukouli S. The Role of Empathy in Health and Social Care Professionals. Healthcare (Basel). 2020 Jan 30;8(1):26. doi: 10.3390/healthcare8010026. PMID: 32019104; PMCID: PMC7151200.
8. Hojat, M., DeSantis, J., & Gonnella, J. S. (2017). Patient Perceptions of Clinician's Empathy: Measurement and Psychometrics. Journal of Patient Experience, 4(2), 78–83. https://doi.org/10.1177/2374373517699273
9. Kataoka, Hitomi, Toshihide Iwase, Hiroko Ogawa, Sabina Mahmood, Masaru Sato, Jennifer DeSantis, Mohammadreza Hojat, and Joseph S. Gonnella. "Can Communication Skills Training Improve Empathy? A Six-Year Longitudinal Study of Medical Students in Japan." Medical Teacher 41, no. 2 (2019): 195–200. doi:10.1080/0142159X.2018.1460657.
10. Williams B, Brown T, Boyle M, et al. (2014) Levels of empathy in undergraduate emergency health, nursing, and midwifery students: A longitudinal study. Advances in Medical Education and Practice 5: 299.

11. Mirzaei Maghsud, A., Abazari, F., Miri, S., & Sadat Nematollahi, M. (2020). The effectiveness of empathy training on the empathy skills of nurses working in intensive care units. Journal of research in nursing: JRN, 25(8), 722–731. https://doi.org/10.1177/1744987120902827.
12. Nembhard IM, David G, Ezzeddine I, Betts D, Radin J. A systematic review of research on empathy in health care. Health Serv Res. 2023 Apr;58(2):250-263. doi: 10.1111/1475-6773.14016. Epub 2022 Jul 15. PMID: 35765156; PMCID: PMC10012244.
13. Kliszcz J., Nowicka-Sauer K., Trzeciak B., Nowak P., Sadowska A. Empathy in health care providers—validation study of the Polish version of the Jefferson Scale of Empathy. Adv. Med. Sci. 2006; 51:219–225.
14. Norcross J.C. Psychotherapy Relationships that Work: Evidence Based Responsiveness. 2nd ed. Oxford University Press; New York, NY, USA: 2011.
15. Pohontsch N.J., Stark A., Ehrhardt M., Kötter T., Scherer M. Influences on students' empathy in medical education: an exploratory interview study with medical students in their third and last year. BMC Med. Educ. 2018; 18:231. doi: 10.1186/s12909-018-1335-7.
16. Ding X, Wang L, Sun J, Li DY, Zheng BY, He SW, Zhu LH, Latour JM. Effectiveness of empathy clinical education for children's nursing students: A quasi-experimental study. Nurse Educ Today. 2020 Feb;85: 104260. doi: 10.1016/j.nedt.2019.104260. Epub 2019 Nov 6. PMID: 31778862
17. Gholamzadeh, S., Khastavaneh, M., Khademian, Z. et al. The effects of empathy skills training on nursing students' empathy and attitudes toward elderly people. BMC Med Educ 18, 198 (2018). https://doi.org/10.1186/s12909-018-1297-9
18. Sheng-Miauh Huang, Su-Chen Fang, Szu-Ying Lee, Pei-Jung Yu, Chen-Jung Chen, Yan-Si Lin, Nurse Education in Practice, volume 67, 2023, 103560, ISSN 1471-5953, https://doi.org/10.1016/j.nepr.2023.103560.
19. Shirazi F, Sharif F, Molazem Z, Alborzi M. Dynamics of self-directed learning in M.Sc. nursing students: qualitative research. J Adv Med Educ Prof. 2017;5(1):33-41.
20. Kumari SS, Ajee KL, Moly KT, Yasodharan R, Islam R. Evidence-Based Practice Approach on Clinical Empathy Skills Among Health Professionals: A Systematic Review Protocol. SciBase Epidemiol Public Health. 2024; 2(1): 1015.
21. Nembhard, Ingrid & David, Guy & Ezzeddine, Iman & Betts, David & Radin, Jennifer. (2022). A Systematic Review of Research on Empathy in Healthcare. Health Services Research. 58. 10.1111/1475-6773.14016.
22. https://www.indiannursingcouncil.org/uploads/pdf/164820583313467965176 23da009cbe90.pdf, Accessed on March 2024.
23. Jia-Ru, Jiao MSNa; Yan-Xue, Zhenga; Wen-Nv, Hao MB, RNb,*. Empathy ability of nursing students: A systematic review and meta-analysis. Medicine 101(32):p e30017, August 12, 2022. | DOI: 10.1097/MD.0000000000030017
24. https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/whats-your-blood-group-the-answer-might-reveal-some-interesting-things-about-you/photostory/69024174.cms#:~:text=People%20with%20B%20blood%20type,and%20being%20uncooperative%20at%20times.
25. Gupta T, Blood Groups and Emotional Intelligence. International Journal of Indian Psychology, Vol. 4, (4), 2017, DIP:18.01.030/20170404, DOI:10.25215/0404.030
26. Dong X, Kalugina OA, Vasbieva DG and Rafi A (2022) Emotional Intelligence and Personality Traits Based on Academic Performance. *Front. Psychol.* 13:894570. doi: 10.3389/fpsyg.2022.894570.
27. Suja Kumari S , Rani Sudarshan , Nimmy Renjith, "Stress among Nursing Students; Effectiveness of Structured Teaching Programme on Academic Stress", International Journal of Novel Research and Development (www.ijnrd.org), ISSN:2456-4184, Vol.9, Issue 3, page no.e509-e514, March-2024, Available :http://www.ijnrd.org/papers/IJNRD2403462.pdf
28. Sreedevi PA, Aswathy BL, Roy N, "A correlational study on assertiveness and self-esteem of undergraduate students of a selected college of nursing, Ernakulam", Indian journal of public health research and development, 2018, 9(6), 49-55 | 2018 Issue 7,https://doi.org/10.5958/0976-5506.2018.00522.3
29. Mousavi, Seyed, and Mohsen Kamali. "The relationship of nursing students' personality traits with their perceived stress in clinical environment." Nursing and Midwifery Studies, vol. 10, no. 4, Oct.-Dec. 2021, p. 278. Gale Academic OneFile, link.gale.com/apps/doc/A684684103/AONE?u=anon~c3664074&sid=googleScholar&xid=32773db7. Accessed 8 May 2024
30. Hurissa, B. F., Koricha, Z. B., & Dadi, L. S. (2023). Effect of empathy training on the empathy level of healthcare providers in Ethiopia: A cluster randomized controlled trial. Frontiers in Psychology, *14*, 1091605. https://doi.org/10.3389/fpsyg.2023.1091605
31. Kahriman I, Nural N, Arslan U, Topbas M, Can G, Kasim S. The Effect of Empathy Training on the Empathic Skills of Nurses. Iran Red Crescent Med J. 2016 Jun 5;18(6):e24847. doi: 10.5812/ircmj.24847. PMID: 27621922; PMCID: PMC5002343.
32. Shirazi F, Sharif F, Molazem Z, Alborzi M. Dynamics of self-directed learning in M.Sc. nursing students: qualitative research. J Adv Med Educ Prof. 2017;5(1):33-41
33. Mirzaei Maghsud A, Abazari F, Miri S, Sadat Nematollahi M. The effectiveness of empathy training on the empathy skills of nurses working in intensive care units. J Res Nurs. 2020 Dec;25(8):722-731. doi: 10.1177/1744987120902827. Epub 2020 Oct 12. PMID: 34394695; PMCID: PMC7932470.