

Effect of an Educational Brochure on Nurses' Knowledge, Perception and Attitude Regarding Telenursing at Isolation Hospitals

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Abstract

Background: Telenursing care is fundamental changing in the way healthcare is delivered. Nurses could use telenursing to deliver the entire process of care. Nurses who can provide telenursing should have appropriate knowledge, positive attitude, and the ability to navigate technology to provide quality care. **The aim of this study** was to evaluate the effect of an educational brochure on nurses' knowledge, perception, and attitude regarding telenursing at isolation hospitals. **Subjects and method:** A quasi-experimental research design was utilized for conducting this study. **Study sample:** The study included all available nurses (87) who worked at the isolation wards of university hospitals at Mansoura and Kafr El-Sheikh and agreed to participate in the study. **Tools:** To collect the data and fulfill the study's aim, the following three tools were utilized. Tool I: Nurses' knowledge questionnaire regarding telenursing, which included two parts; demographic data and nurses' knowledge questionnaire regarding telenursing. Tool II: Nurses' attitude scale toward using telenursing. Tool III: Nurses' perception scale toward using telenursing. **Results:** The present study showed significant improvements in nurses' knowledge, perception, and attitude in the posttest result compared to the pretest (p ≤ 0.001). **The study concluded** that the educational brochure had a positive effect on nurses' knowledge, perception, and attitude regarding telenursing. **The current study recommended** that the study could be applied to a larger sample size including healthcare professionals, to improve the learning effects of telenursing in clinical practice and gain a broader understanding of best practices regarding telenursing education.

Keywords: Attitude, Educational brochure, Knowledge, Perception, and Telenursing.

Introduction

Telenursing is the use of technology to provide nursing services through computers and mobile devices. As mobile devices become more prevalent and accessible, telenursing is becoming a more attractive healthcare alternative. Patients no longer had to limit their access to doctors and general practitioners at specific clinical facilities. It enables nurses to communicate easily with patients through mobile devices, computers, mobile applications, and video technologies, in addition, it facilitates accessibility of monitoring patients who live so far from health care settings (Dai, 2023). Telenursing is viewed as a new application of

technology and efficient practice in order to deliver health care services in different settings with poor facility placement, insufficient specialist nurses, and poor access to facilities. Its application aims to overcome the challenges of insufficient transport systems and distances to ensure quality care (Haleem, 2021).

Hospitals all around the world try to keep their employees safe, make the best use of personal protective equipment, and connect with patients when they are hospitalized and alone while allowing them to virtually stay with their relatives. (Greenhalgh et al., 2020; Marhefka, Lockhart & Turner, 2020). So, due to scarcity of nurses, with inadequate

facilities for prevention, diagnostic measures, and therapeutic tools the isolation hospitals showed a high risk of infection, which deal with through significant difficulties. As a result, it is urgently necessary to develop clinical care guidelines and practices to protect healthcare providers from harm and unnecessary risk while caring for patients who may be infected (Anwar et al., 2021).

The most popular methods of transmitting data to medical professionals staff and gathering patient information in touchless care include websites, video chats, and other forms of information technology (Hollander & Carr, 2020). Additionally, they are employed to conduct health programs to lower the danger of social interaction when hospitalized or isolated (Scott & Mars, 2020). These services allow nurses who are in quarantine to care for remotely patients while addressing certain staffing problems (Canady, 2020).

One of the effective techniques of this approach is that the nurse could provide distance education. So, patient demands also include knowledge about the disease outcomes, monitoring their health status, adherence to standards of care, know diet allowed, provide health counseling based on needs, and drug side effects, all could be carried out through telenursing (Li et al., 2020).

The danger of direct human-to-human transmission of infectious pathogens was reduced by remote care while simultaneously increasing access to care and reducing the use of resources in health centers (De Simone et al., 2022). Broader access to nurses is a significant advantage in addition to being beneficial for people's safety, including that of the general public, patients, and healthcare professionals (Pfaar et al., 2021). As a result, this method is a desirable, practical, and cost-efficient choice (Zhou et al., 2020).

Nurses can utilize telenursing to deliver all aspects of care, including assessment, planning, implementation, and evaluation the outcomes of nursing care. In addition, nurses can offer patients during infectious disorders with psychological support, information,

educational skills, and practical coping mechanisms (Mataxén & Webb, 2019).

Nurses should enhance their skills and procedures to prevent illness and control its spread, especially those working in isolation hospitals and playing a vital role in infection control (Bhagavathula et al., 2020; Fawaz et al., 2020). The basis for changing behavior is knowledge, beliefs, and attitudes which are considered significant motivators of behavior change. In addition, the ability to deliver competent care while maintaining patient safety is one of the nurse's basic skills (Zhou, et al., 2020).

There are some difficulties with telenursing application, such as available healthcare providers and patients who have troubles with using the technology due to lack of support, education, and guidance. Therefore, if nurses want to provide telenursing, they need to be optimistic, open-minded, knowledgeable about the technology, its use, and aware of its limits. They ought to be able to determine if hospitalization or changes in the care plans are necessary (Rizk & Siam, 2021).

Significance of the study

Nowadays, the use of technology is inevitable in the life of people, so that it can be used effectively in different critical situations. Telenursing is a technology-based nursing service that was created to provide convenience to health services for patients especially in isolation hospitals to minimize the risk of exposure to infection between patients and health care workers (Canady, 2020). So, health care providers must be equipped with the necessary knowledge, training, experience and should have positive attitude toward telenursing in order to utilize it effectively in meeting patient needs and provide competent patient care.

Aim of the study

To evaluate the effect of an educational brochure on nurses' knowledge, perception, and attitude regarding telenursing at isolation hospitals.

Research Hypotheses

H1: The educational brochure may have a positive effect on nurses' knowledge and perception regarding telenursing.

H2: The educational brochure may have a positive effect on nurses' attitudes regarding telenursing.

Subjects and Methods

Research Design: A quasi-experimental research design, one group (pre and post-test) was utilized for conducting this study.

Setting

The current study was conducted in the isolation hospitals at Mansoura University and Kafr- Elsheikh University hospitals.

Subjects:

The study including 87 nurse who were all available and working at the isolation wards of the University Hospitals of Mansoura and Kafr El-Sheikh and agreed to participate in the study.

Tools of data collection:

Data were collected by using the following two tools:

Tool I: Nurses knowledge questionnaire regarding telenursing,

It was developed by the researchers in simple Arabic language consisting of two parts.

Part 1: Demographic data questionnaire which included (gender, age, educational level, years of experience, residence, frequency of using the internet, and attending in-service training courses about telenursing).

Part 2: Nurses' knowledge questionnaire regarding telenursing,

It was developed by the researchers based on reviewing the current related literature, and included the following items:

- Nurses' knowledge concerning factors

affecting telenursing practice:

- It was adopted from **Pollak, (2019)** and translated into Arabic language. It consisted of five main domains as follows; core readiness (2 items), operations (6 items), staff engagement (2 items), and patients' readiness (2 items). Each correct response had one point, while unknown or incorrect responses had zero. To get a total score, the sub-items scores were added together. Total scores range from 0 to 12, and the difference in scores was determined using the mean and standard deviation.

- Nurses' knowledge about barriers to the practice of telenursing:

- It was adopted from **Alboraie et al., (2022)** and translated into Arabic language. It consisted of six closed-ended questions. Each correct response had one point, while unknown or incorrect responses had zero. Calculated total scores ranged from 0 to 6. The difference in scores was determined using the mean and standard deviation.

- Nurses' knowledge about the additional services that could be provided by telenursing:

- It was adopted from **Alboraie et al., (2022)** and translated into Arabic language. It consisted of seven closed-ended questions. Each accurate response had one point, while unknown or incorrect responses had zero. The total score was determined and ranged from 0 to 7. To ascertain the variation in scores, the mean and standard deviation were estimated.

Scoring system: The knowledge scores were categorized into three levels: poor <60% of total scores, Average = 60:75 % of total scores, and good ≥ 75 % of total scores (**Malhotra et al., 2020**).

Tool II: Nurses' attitude scale toward using telenursing

This tool was adopted from **Anna et al., (2014)** and translated into Arabic language. It consisted of two main parts; attitude regarding him/ herself which included (5 questions) and attitude regarding the health system which included (13 questions).

Scoring system was used to calculate nurses' attitudes based on Likart scale ranging from (1 to 3), where agree = 3, neutral = 2, and disagree= 1. There were five negative statements and the scoring system was reversed for these statements.

Scoring system: The attitude scores were categorized into two levels where positive attitude ≥ 60 % of total scores, while negative attitude <60 % of total scores according to the cut-off point (Ebrahim & Elsayed, 2018).

Tool III: Nurses' perception scale toward using telenursing

Nurses' perception regarding telenursing was adopted from Poreddi et al., (2021) and translated into Arabic language and included six main closed-ended questions with (20) subitems, such as the definition of telenursing, uses, types, types of technology devices used in telenursing, advantages, and disadvantages of telenursing. The overall perception of nurses was evaluated using approximated scores. Each accurate response received one point, while inaccurate responses or those who didn't know the answer received a score of zero. The sub-item scores, which varied from 0 to 20, were added up to determine the total score.

Scoring system: Nurses' perception scores were categorized into two levels where, low mean refers to low perception while high (increased mean) refers to high perception level (Poreddi et al., 2021).

Validity and reliability of the tools:

Seven specialists in Medical-Surgical Nursing reviewed the tool's content to ensure its appropriateness in addition to checking its validity, and any required changes were done.

Reliability was done using Cronbach's alpha test, the tools' reliability was assessed, and the results are as follows, the tool I entitled "Nurses knowledge questionnaire regarding telenursing" was 0.846, tool II entitled " Nurses' attitude scale toward using telenursing" was 0.913 and tool III entitled "Nurses' perception scale toward using telenursing" was 0.816.

Ethical considerations:

After describing the aim of the study and receiving informed permission from all participants, Mansoura University Faculty of Nursing Research Ethics Committee approved it (**Research No. P.0383 Code of Ethics**). Researchers emphasized that confidentiality, privacy, and anonymity were assured for all participants throughout the study. The researchers confirmed that every participant has the right to withdraw from the study at any time.

Pilot study:

The pilot study was done on nine nurses (10%) to determine the feasibility, practicality and to estimate time needed to fill in the study developed tools. Nurses share in the pilot study were excluded from the study as well as modifications were done as needed.

Data collection

Data were collected over three months and carried out through three phases starting from January 2023 to the end of March 2023 which are described below:

Preparation phase

This is the first phase, it took place after reviewing the current updated literature regarding nurses' knowledge, perception, and attitudes toward telenursing, and its importance in patient care, searching and formulation of the necessary tools for data collection began. In addition to scheduling visits and sessions required for nurses' meetings which are organized to be in the morning and afternoon of their shifts, after getting approval from the hospital's director and the head nurse.

To evaluate nurses' knowledge, perception, and attitude regarding the use of telenursing in patient care at isolation hospitals, researchers prepared the required three study tools. The researchers then prepared an educational brochure in Arabic language explaining the necessity for nurses to learn about telenursing to facilitate caregiving and save nursing time and effort. Brochure

educational content was developed based on nurses identified needs during the analysis of the pre assessment stage. The educational content involved applications, barriers to telenursing practice, telenursing's advantages and disadvantages, and telenursing support services.

Implementation phase:

- In this phase, the schedule for assessing nurses' knowledge, perception, and attitude regarding applications of telenursing was designed to be 2 days /week. Nurses' knowledge, perception, and attitude were assessed using tools I, II, and III (pretest). Every nurse took 45 minutes to be interviewed.

- After completion of the pretest, teaching sessions about telenursing were established, organized, and explained to nurses using educational materials such as graphics, PowerPoint, and colored brochures. Through four sessions, which were divided into two sessions per day and each session lasted for 20 to 30 minutes. The session covered the theoretical knowledge about telenursing and its applications. Nurses were allowed to ask for any interpretation or explanation of any item included in the session. Participating nurses received a colored brochure.

Evaluation phase:

In this phase, nurses' knowledge, perception, and attitude regarding telenursing at isolation hospitals were assessed using tools I (part 2), II, and III after one month post educational intervention implementation (posttest).

Statistical analysis

The Statistical Package for Social Sciences (version 20) was used to gather, combine and statistically analyze the data. Before the calculations, the data's normality was evaluated to show that they are normally distributed. Categorical data were reported as numbers and percentages, whereas continuous data were expressed as mean \pm standard deviation. To compare variables using

continuous data, a t-test was used. The chi-square test was used to compare variables with categorical data.

Results

Table 1 showed that 65.5% of the nurses were females, 88.5% were between 20 and 40 years old, and 52.9% of them had a nursing bachelor degree. This table clarified also that 56.3% of studied nurses had experienced less than 5 years, (66.7%, 62.1%) of the nurses respectively live in urban areas and reported that they use the internet more than 3 hours per day. Finally, 57.5% of the nurses didn't attend training courses about telenursing.

Figure 1 illustrated that the minority of the nurses had poor knowledge level during the posttest compared to about three-quarters during the pretest, while, around two-thirds of the nurses had good knowledge during the posttest compared to less than one-tenth of the nurses during the pretest. Finally, there was significant improvement in nurses' knowledge during the posttest compared to the pretest at $p = 0.000$.

Table 2 showed that there was a significant improvement in nurses' perception concerning telenursing during the posttest compared to the pretest where $p = 0.000$.

Table 3 clarified that 17.2% of studied nurses had a negative attitude regarding telenursing during the posttest compared to 72.4% during the pretest. Furthermore, 82.2% of the nurses had a positive attitude regarding telenursing during the posttest compared to 26.6% during the pretest. Finally, there is a significant improvement in nurses' attitudes during the posttest compared to the pretest at $p = 0.000$.

Table 4 revealed that there was a positive significant correlation between total nurses' knowledge & attitude during the pretest. Also, there was a positive significant correlation between nurses' attitude and both nurses' knowledge & perception of telenursing at post-test ($P \leq 0.05$).

Table (1): Demographic characteristics of the studied sample (N=87).

Items	No	%
Gender		
▪ Male	30	34.5
▪ Female	57	65.5
Age groups (years)		
▪ < 20	8	9.2
▪ 20:40	77	88.5
▪ ≥ 40	2	2.3
Educational level		
▪ Nursing school	1	1.1
▪ Nursing institute	4	4.6
▪ Nursing bachelor	46	52.9
▪ Postgraduate	36	41.4
Work specialty		
▪ Operating room	15	17.3
▪ Inpatient	16	18.4
▪ ICU	21	24.1
▪ NICU	20	23
▪ Emergency	5	5.7
▪ Transplantation	10	11.5
Years of experience		
▪ < 5	49	56.3
▪ 5: < 10	18	20.7
▪ ≥10	20	23
Residence		
▪ Rural	29	33.3
▪ Urban	58	66.7
Internet usage		
▪ Less than 1 hour/ day	4	4.6
▪ 1:3 hours/day	29	33.3
▪ + 3 hours/day	54	62.1
Training courses		
▪ Yes	37	42.5
▪ No	50	57.5

Figure (1): Total nurses' knowledge regarding telenursing (N=87)

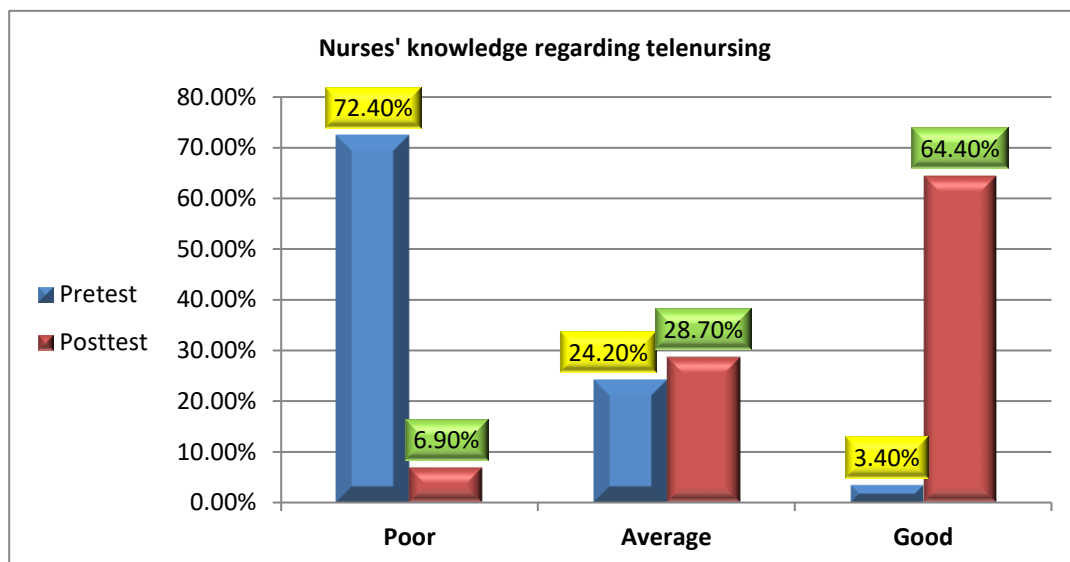


Table (2): Mean difference of nurses' perception concerning telenursing between (Pre & post-test).

Pretest Mean ± SD	Posttest Mean ± SD	Significance
16.367 ± 3.231	40.023 ± 12.116	t= 18.050 p= 0.000**

** highly significant at $P \leq 0.001$

Table (3): Total nurses' attitude regarding telenursing (N=87).

Levels	Pre-test		Posttest		Significance
	No	%	No	%	
Negative	63	72.4	15	17.2	$X^2= 53.538$ $p=0.000**$
Positive	24	26.6	72	82.8	

**highly significant at $P \leq 0.001$

Table (4): Correlation between nurses' knowledge, perception & attitude.

Phase	Variables	r	p
Pretest	Total nurses' knowledge & perception	0.203	0.060
	Total nurses' knowledge & attitude	0.269	0.041*
	Total nurses' attitude & perception	0.044	0.684
Posttest	Total nurses' knowledge & perception	0.210	0.051
	Total nurses' knowledge & attitude	0.348	0.031*
	Total nurses' attitude & perception	0.305	0.004*

Not significant at $P > 0.05$ *Significant at $P \leq 0.05$

Discussion

For providing remote healthcare services, telenursing makes use of technological innovations. In order to prevent illness and stop its spread, nurses, particularly those working at

isolation hospitals, play a crucial role regarding infection control (Ghoulami-Shilsari & Esmailpour Bandboni, 2019 & Bhagavathula, et al., 2020). Telenursing could provide nurses with innovative methods for interdisciplinary care delivery, pain

management, remote data collecting, intervention, monitoring, education, and follow-up (Fawaz et al., 2020).

To maintain telenursing continuity, a plan had to be established and complied with national regulations on social distance. Numerous difficulties and barriers exist for Telenursing applications, such as the inability to handle specialized equipment, resistance to change, and lack of telenursing experience. A positive outlook, competence in technology, and an awareness of the technology's limits were all required for nurses who seek to deliver telenursing (Kord et al., 2021). So, the present study examined the effect of an educational brochure on nurses' knowledge, perception, and attitude regarding telenursing at isolation hospitals.

According to the study assessment of the sample's demographics, the majority of nurses aged 20 to 40 years old, half of them had a bachelor's degree in nursing and fewer than five years of experience. Nearly three-fifths of studied nurses never attended telenursing training. These findings are in accordance with Chang et al., (2021) who reported in their study that the majority of registered nurses were female and between the ages of 30 and 47 years old, with nearly half of them obtaining a bachelor's degree.

The current study finding revealed that nurses' knowledge significantly improved during the posttest compared to the pretest. This was in line with the findings of El-Zayat et al., (2022) who stated that statistically significant improvements was noted in all knowledge categories following implementation of the telenursing education sessions. In a study done by Alvis et al., (2019) research showed that educational brochures were perceived as a clinically effective tool for enhancing knowledge and gaining information about changes beliefs.

In reference to total attitude scores, the present study showed that four-fifths of the nurses had a positive attitude towards telenursing during the post-test compared to one-quarter during the pre-test. These findings agree with those of Ebrahim & Elsayed (2018)

who demonstrated that there was a statistically significant difference in the attitude scores before and after the educational program implementation. This may be related to that educational intervention via brochure resulted in a considerable positive change in both the knowledge and attitude of nurses regarding telenursing.

According to the current study finding, nurses' perception of telenursing significantly altered between the pretest and posttest concerning how it was seen by nurses. In this respect, according to a study done by Hendy et al., (2023) who verified that an educational intervention enhanced nurses' perception in this aspect.

The current study findings regarding the correlation between knowledge and attitude showed that there was a mild positive significant correlation between total nurses' knowledge and attitude during the pretest as well as a mild positive significant correlation between nurses' attitude and both nurses' knowledge and perception about telenursing. These findings are further supported by the study conducted by Abd Ellatif et al., (2023) who reported a significant correlation between the overall knowledge scores and total attitude scores of the nurses. These results contrasted with Ahmed & Bashir (2021) who found no statistically significant correlation between total knowledge scores and total attitude scores.

Conclusion

The findings of the present study displayed that nurses had poor knowledge, low perception levels, and negative attitude regarding telenursing at the pretest compared to the posttest. So, the educational brochure had a positive effect on nurses' knowledge, perception, and attitude regarding telenursing.

Recommendations

Based on the study findings, the recommendations are as follows:

- The researchers suggest conducting more studies with a bigger sample size to enhance the learning impact of telenursing in

clinical settings and get a deeper understanding about the greatest telenursing education practices and better public and nurse awareness.

- All nurses must get training and ongoing retraining about telenursing applications in order to prepare future healthcare providers to be able to provide safe and competent care in a highly technical and digital environment.

References

- Ahmed, T., and Bashir, M. (2021).** Knowledge, attitude, and perception related to telenursing among students and nursing staff at the King Abdul- Ai University. *Nigerian Journal of Clinical Practice*. 24(4). 464-468.
- Abd Ellatif, A., Elsayed, D. and HamidoAbosree, T. (2023)** “Knowledge and attitude of Faculty of Nursing students regarding telenursing,” *Journal of Nursing Science Benha University*, 4(1), pp. 677–689. Available at: <https://doi.org/10.21608/jnsbu.2023.278954>.
- Alboraie, M., Abdalgaber, M., Youssef, N., Moaz, I., Abdeen, N., Abosheishaa, H. M., & Fouad, Y. (2022).** Healthcare Providers’ Perspective about the Use of Telemedicine in Egypt: A National Survey. *International journal of telemedicine and applications*.
- Alvis, M. L., Morris, C. E., Garrard, T. L., Hughes, A. G., Hunt, L., Koester, M. M., & Tinius, R. A. (2019).** Educational brochures influence beliefs and knowledge regarding exercise during pregnancy: a pilot study. *International journal of exercise science*, 12(3), 581.
- Anna H ,Cornelis T, Houweling M, &Helianthe,S., (2014).** An explorative Delphi study to uncover knowledge, attitudes and, skills for nurses using eHealth. *Journal of Nurse Education today* (open access), Utrecht University, Clinical Health Sciences, Master programme Nursing Science, UMC-Utrecht Internship institute: University of applied sciences Hogeschool Utrecht, Transparency reporting: STROBE statement. a Viable at helianthe.kort@hu.nl.
- Anwar Abd ElAziz, M., Eldien Abd Elhafez, N. G., & Youssef Sayed, S. (2021).** Effect of Nursing Educational Program on Nurses’ Knowledge and Practices regarding Pandemic Covid-19 in Isolation Unit. *Egyptian Journal of Health Care*, 12(4), 248–263. <https://doi.org/10.21608/ejhc.2021.198442>.
- Bhagavathula AS, Aldhalei WA, Rahmani J, and et al., (2020).** Knowledge and Perceptions of COVID-19 Among Health Care Workers: Cross- Sectional Study *JMIR Public Health surveill* 2020;6(2):e19160.
- Canady, V. A. (2020).** COVID-19 outbreak represents a new way of mental health service delivery. *Mental Health Weekly*, 30(12), 1–4. <https://doi.org/10.1002/mhw.32282>.
- Chang, M. Y., Kuo, F. L., Lin, T. R., Li, C. C., & Lee, T. Y. (2021).** The intention and influence factors of nurses’ participation in telenursing. In *Informatics* (Vol. 8, No. 2, p. 35). MDPI.
- Dai, Z. (2023).** Telehealth in long-term care facilities during the Covid-19 pandemic– Lessons learned from patients, physicians, nurses and healthcare workers. *BMC Digital Health*, 1(1), 2.
- De Simone, S., Franco, M., Servillo, G., & Vargas, M. (2022, June 28).** Implementations and strategies of telehealth during COVID-19 outbreak: a systematic review. *BMC Health Services Research*, 22(1). <https://doi.org/10.1186/s12913-022-08235-4>.
- Ebrahim, R. M. R., & Elsayed, K. A. (2018).** Effectiveness of educational program about telenursing for nursing intern on their knowledge and attitude. *Int J Novel Res Healthcare Nurs*, 5, 501-11.
- El-Zayat, M O., Elkattan, A B. and Ahmed Hassan, R. (2022)** “Effect of telenursing instructions on improvement of awareness among systemic lupus erythematosus patients,” *Tanta Scientific Nursing Journal*, 27(4), pp. 261–284. Available at: <https://doi.org/10.21608/tsnj.2022.267678>.
- Fawaz, M., Anshasi, H., & Samaha, A. (2020).** Nurses at the Front Line of COVID-19: Roles, Responsibilities, Risks, and Rights. *The American Journal of Tropical Medicine and Hygiene*, 103(4), 1341–1342. <https://doi.org/10.4269/ajtmh.20-0650>.
- Ghoulami-Shilsari, F. and Bandboni, E M. (2019)** “Tele-nursing in chronic disease care: A systematic review,” *Jundishapur*

- Journal of Chronic Disease Care*, In Press(In Press). Available at: <https://doi.org/10.5812/jjcdc.84379>.
- Greenhalgh T, Wherton J, Shaw S, et al. (2020).** Video consultations for Covid-19. *BMJ*;368:m998.
- Haleem, A., Javaid, M., Singh, R. P., & Suman, R. (2021).** Telemedicine for healthcare: Capabilities, features, barriers, and applications. *Sensors international*, 2, 100117.
- Hendy, A. et al. (2023)** “Effect of educational intervention on nurses’ perception and practice of antimicrobial stewardship programs,” *American Journal of Infection Control*, 51(1), pp. 41–47. Available at: <https://doi.org/10.1016/j.ajic.2022.05.001>.
- Hollander, J. E., & Carr, B. G. (2020).** Virtually Perfect? Telemedicine for Covid-19. *New England Journal of Medicine*, 382(18), 1679–1681. <https://doi.org/10.1056/nejmp2003539>.
- Kord, Z., Fereidouni, Z., Mirzaee, M. S., Alizadeh, Z., Behnamoghdam, M., Rezaei, M., ... & Zaj, P. (2021).** Telenursing home care and COVID-19: a qualitative study. *BMJ supportive & palliative care*.<http://dx.doi.org/10.1136/bmjspcare-2021-003001>.
- Li, L., Huang, T., Wang, Y., Wang, Z., Liang, Y., Huang, T., Zhang, H., Sun, W., & Wang, Y. (2020).** Response to Char’s comment: Comment on Li et al: COVID-19 patients’ clinical characteristics, discharge rate, and fatality rate of meta-analysis. *Journal of Medical Virology*, 92(9), 1433–1433. <https://doi.org/10.1002/jmv.25924>.
- Malhotra, P. et al. (2020)** “Assessment of knowledge, perception, and willingness of using telemedicine among medical and allied healthcare students studying in private institutions,” *Telehealth and Medicine Today* [Preprint]. Available at: <https://doi.org/10.30953/tmt.v5.228>.
- Marhefka, S., Lockhart, E. and Turner, D. (2020).** Achieve Research Continuity During Social Distancing by Rapidly Implementing Individual and Group Videoconferencing with Participants: Key Considerations, Best Practices, and Protocols. *AIDS and Behavior*. doi:10.1007/s10461-020-02837-x.
- Mataxen, P. A., & Webb, L. D. (2019).** Telehealth nursing: More than just a phone call. *Nursing*, 49(4), 11–13. <https://doi.org/10.1097/01.nurse.0000553272.16933.4b>
- Poreddi, V., Veerabhadraiah, K. B., Reddy, S., Manjunatha, N., Channaveerachari, N., & Math, S. B. (2021).** Nursing Interns’ Perceptions of Telenursing: Implications for Nursing Education. *Telehealth and Medicine Today*, 6 (2).
- Pfaar, O., Klimek, L., Jutel, M., and et al., (2021).** COVID-19 pandemic: Practical considerations on the organization of an allergy clinic—An EAACI/ARIA Position Paper. *Allergy*, 76(3), 648–676.
- Pollak A., (2019).** Telehealth readiness assessment tool. Maryland Health Care Commission. Available at <http://mhctelehealthtool.herokuapp.com/>.
- Rizk, S., & Siam, B. (2021).** Effect of Telenursing Education Program on Nurses’ Compliance with Standard Precautions during COVID- 19 Pandemic. *Assiut Scientific Nursing Journal*, 9 (25), 10–19. <https://doi.org/10.21608/asnj.2021.73190.1166>.
- Scott, R. E., & Mars, M. (2020).** Response to Smith et al.: Telehealth for global emergencies: Implications for coronavirus disease 2019 (COVID-19). *Journal of Telemedicine and Telecare*, 26(6), 378–380. <https://doi.org/10.1177/1357633x20932416>
- Zhou, X., Snoswell, C. L., Harding, L. E., Bambling, M., Edirippulige, S., Bai, X., & Smith, A. C. (2020).** The Role of Telehealth in Reducing the Mental Health Burden from COVID-19. *Telemedicine and E-Health*, 26(4), 377–379. <https://doi.org/10.1089/tmj.2020.0068>