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# ATTITUDES TOWARD PHYSICAL EXAMINATION SKILLS AMONG STAFF NURSES IN CLINICAL SETTINGS AT PEOPLE'S MEDICAL COLLEGE HOSPITAL, NAWABSHAH.

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### **ABSTRACT**

**Background:** Physical examination skills are critical for nurses, but many report they are underutilized due to heavy workloads, insufficient training, and the perception that these tasks are primarily the responsibility of doctors. Addressing these challenges is essential for improving patient care and optimizing nursing practice.

**Objective:** The primary aim of this study was to assess the attitudes of staff nurses towards physical examination skills at People's Medical College Hospital, Nawabshah.

**Research Methodology:** A cross-sectional study was conducted from July to September 2024. The sample comprised 82 staff nurses selected using non-probability convenience sampling. Data were analyzed using IBM SPSS version 23.

**Results:** The study found that 77% of respondents acknowledged that physical examinations are crucial for fostering patient confidence, and 86.6% believed these skills enhance their self-worth and positively contribute to patient care. However, a significant number (73.2%) of nurses viewed diagnostic procedures as more beneficial than physical examinations. Additionally,70.7% of respondents identified increased workloads as a key barrier to conducting thorough physical examinations.

Conclusion: The study concluded that nurses express a positive attitude toward the importance of physical examination for patient care. However, notable barriers, such as heavy workloads and the perception that physical examinations should be conducted by doctors, hinder their practice. Overcoming these challenges through improved training, interprofessional collaboration, and stronger support structures will help empower nurses and enhance patient care.

**Keywords:** Nursing staff, Workload, Attitudes, Physical examination skills, Multidisciplinary teamwork.

### INTRODUCTION

Physical examination (PE) as part of the assessment process enables healthcare professionals to gather factual information about a patient's condition through active techniques like Inspection, Palpation, Percussion, and

Auscultation (Diggens, 2023; Jepchumba Kiplagat, 2024). In clinical practice, physical assessments assist in defining subsequent patient care plans, eliminating unnecessary investigations, and building trust through touch, which may be essential for the development of a therapeutic nurse-patient relationship (Fabiyi, 2022; Tan et al., 2021). As the health professionals providing basic care daily, nurses should undertake physical assessments on patients to assess their health status, observe signs of change or complications, and take corrective action if needed(Asante, 2024). Over the past few years, more attention has been paid to the importance of the physical assessment performed by nurses, especially in clinical and acute care practice where timely identification of complications can also lead to improved client outcomes (Gharaibeh et al., 2022). However, literature has indicated that physical examination skills are crucial and highlights that nurses have diverse attitudes towards physical examinations. Some nurses consider physical exams as an additional duty (Özdaş & Kısacık): Though some nurses do perform physical exams, it is common to see them delegate the duty to physicians several barriers including lack of training, time constraints, and institutional influence affect the use of physical assessment skills among the nurses (Liyew et al., 2021). The correlation between perceived attitude and the actual behavior of the nurses on physical examination depends on training, experience, and organizational culture. Furthermore, there is a rising trend suggesting that nurses' skills in making holistic physical assessments could assist in early recognition of the patient's deterioration mostly in the intensive care units (Brown et al., 1987; Doğdu et al., 2021). However some studies have revealed that many nurses are not confident in applying their physical examination techniques, therefore, their usage is sporadic or limited. This gap clearly shows that there is a need for continuous staff training and organizational support in the development of effective nursing physical examination competency (Kulakaç & Koçan, 2023). For the current study, concerning and assessing the staff nurses' attitudes toward physical examination and the factors influencing their practice, it is important for the improvement of patient care in the People's Medical College Hospital, Nawabshah.

The current study finds that the extent to which nurses try to perform quality physical examinations on patients depends on their attitudes, training, and resource base. It is crucial to resolve these problems, as they involve life-threatening conditions in high-risk patients, where early identification of health decline is of paramount importance for ensuring timely intervention and improving patient outcomes. This current study highlights that the quality of the physical examination conducted by the nurses is highly dependent on the attitude, training, and available tools. These are significant aspects to be treated and noticed, especially where a high-risk patient's identification of a decline in health conditions might mean the difference between life and death.

**RESEARCH OBJECTIVE**→ To assess the attitudes of staff nurses toward physical examination skills in clinical settings at People's Medical College Hospital, Nawabshah.

### RESEARCH OUESTION

What are the attitudes of staff nurses toward performing physical examination skills in clinical practice at People's Medical College Hospital, Nawabshah?

#### LITERATURE REVIEW

Nurses' attitudes towards physical examination skills are the most important factors that define the quality of care given to patients in clinical facilities. There is a clear relationship between positive attitudes toward PE and better competence in performing the assessments, which in turn enhances patient outcomes (s Babu, 2023). The study has found that nurses' confidence in physical examination quite has a lot to do with the regularity and accuracy of these procedures that are crucial in the early detection of ailments, and proper handling of the patients (Veikkolainen et al., 2023). Physical examinations are essential for early diagnosis and efficient patient care, and their frequency and correctness are greatly influenced by nurses' confidence in their skill level (Martin & Naziruddin, 2020). These attitudes are especially shaped by education. Nurses who undergo thorough training in physical examination techniques frequently report feeling more confident when conducting PE, which improves their abilities to identify early clinical manifestations of patient deterioration(Chang et al., 2010). However, several situations, such as stress and gender-related concerns

during physical examinations, can affect nurses' attitudes. When conducting physical examinations in clinical settings, nurses may experience anxiety, particularly when examining patients of the opposing gender. Their professional conduct and performance may suffer from this stress, which may be linked to worries about upholding ethical norms and protecting patient privacy (Wheeldon, 2005). The accuracy of physical examination results is another crucial factor. According to research, a nurse's level of experience and expertise can significantly impact the reliability of PE results. Inexperienced nurses may incorrectly diagnose patients by misinterpreting physical signs. Personal judgment and environmental circumstances can cause results to vary, even for highly skilled examiners (Lucas et al., 2009). This implies that although physical examinations are essential for a precise diagnosis, the ability of the examiner to perform the evaluation effectively mostly depends on their level of training and experience. Additionally, many clinical units now prioritize technological assessments above traditional physical examinations due to the growing significance of technology in healthcare. While physical examinations are widely used in emergency rooms (ERs) and intensive care units (ICUs) to make quick decisions, other healthcare settings give preference to electronic testing over in-person examinations (Epstein & Street, 2011). The expanding impact of technology in healthcare is highlighted by this diversity in practice, but it also emphasizes the necessity of maintaining a balance between technical instruments and the fundamental abilities of physical examination. Despite such challenges, a physical examination and diagnostic testing frequently result in better patient outcomes. Following a thorough physical examination with medical testing, a more thorough examination is possible, decreasing the possibility of missed diagnoses and increasing the accuracy of treatment choices (Elder et al., 2016). According to studies, patient satisfaction boosts when physical examinations are completed promptly and thoroughly. People frequently feel more appreciated and respected, which builds trust and enhances their interactions with medical professionals in general (Mostafaee et al., 2024). Physical examinations are very useful in detecting a variety of illnesses, including musculoskeletal injuries, respiratory disorders, cardiovascular problems, and gastrointestinal abnormalities. Common cardiovascular issues, such as heart murmurs and hypertension, can be identified early with routine physical examinations, enabling early medications (Gawlik et al., 2024). Similarly, these physical methods are useful for diagnosing musculoskeletal issues like fractures and respiratory disorders like pneumonia and asthma (Zeng et al., 2024).

In addition, physical examinations do not cost a lot of money and help avoid unneeded medical expenses. It enables the delivery of necessary information through touch examinations making it costly for providers and patients to perform complicated and expensive imaging interventions. This view supports the earlier mentioned that physical examination should not be eliminated from the practice of nursing, given the increased use of technology in the practice of nursing(Secrest et al., 2005). Traditionally, physical examination can be viewed as one of the main activities of Doctors, but it is becoming increasingly clear that physical examination is just as important for Nurses. The broadened scope of practice of nursing and the escalating levels of acuity of patients require physical assessment competency in nurses. Studies show that although nursing education programs stress these skills as critical, they are not always performed in clinical settings particularly those that are acute care (J. D. Maniago et al., 2021). Finally, an increase in nurses' positive attitude towards physical examination can also be achieved through institutional support. Organizations that promote the professional advancement of nurses taking specialized courses concerning physical examination techniques shall play a central role in enhancing both the rate and standards of such assessments. Indeed, a friendly facility environment also contributes to decreasing internal pressures and leads to enhanced outcomes both for the patient and healthcare professionals (Greene & Ramos, 2021).

### RESEARCH METHODOLOGY

**Research Approach:** A quantitative approach.

**Research and Duration:** A cross-sectional study was conducted from July to September 2024.

**Research Setting**: This study was conducted at People's Medical College Hospital, Nawabshah, a prominent healthcare facility in the region.

**Study Population** The target population consisted of staff nurses (both male and female) working at People's Medical College Hospital, Nawabshah.

Sample Size: The sample size was calculated using Raosoft software, which provided a reliable estimate based on the total population of staff nurses (N = 104). After applying a margin of error of 5% and a confidence level of 95%, the final sample size determined for the study was 82 staff nurses.

#### **Inclusion Criteria**

- All Staff Nurses (male and female) working in People's Medical College Hospital, Nawabshah.
- The Staff nurses agreed to take part in the research.
- The staff nurses who were present when the data was being collected.

#### **Exclusion Criteria**

- Staff nurses who declined to take part in the study.
- > Staff nurses were not available when the data was being collected.

Sampling Technique The sampling technique used in the study was the Non-Probability convenience sampling.

Research Tool: A validated questionnaire was used as the data collection tool, which was modified from previous studies (Gharaibeh et al., 2022). The questionnaire consisted of two sections:

- Section A: This section gathers socio-demographic data of the participants, including age, gender, marital status, educational qualifications, area of work, and years of experience.
- Section B: This section contains 15 questions designed to evaluate the attitudes of staff nurses toward performing physical examination skills. The responses were assessed using a 3-point Likert scale: Agree (A), Neutral (N), and Disagree (DA).

#### **Data Collection Process:**

The Nursing Superintendent of People's Medical University Hospital assisted with the participant selection. Once the study objectives were explained, written and verbal consent was obtained from all participants 82 nurses from Neurology, ICU, Medicine, Surgery, Orthopedics and other specialized units were given the questionnaires.

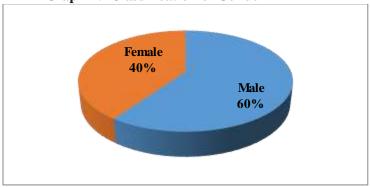
#### **Data Analysis:**

Research of Medical Science Review Data was analyzed using IBM SPSS version 23. Descriptive statistics, including frequencies, percentages, mean, and standard deviation, were used to summarize demographic data and responses to attitude-related questions.

Ethical Considerations: Participant autonomy and confidentiality were strictly upheld throughout the study. Ethical approval was obtained from the Nursing Superintendent at People's Medical College Hospital, Nawabshah. Participation was voluntary, and participants had the right to withdraw at any time without the need for an explanation. Informed consent was obtained from all participants, ensuring they fully understood the study's purpose, methods, potential risks, and benefits.

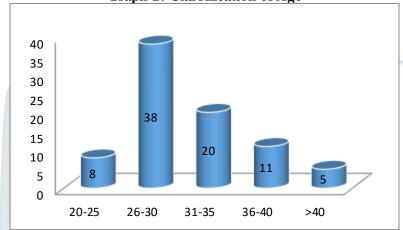
RESULTS

DEMOGRAPHIC ANALYSIS (n=82) Graph 1: Classification of Gender



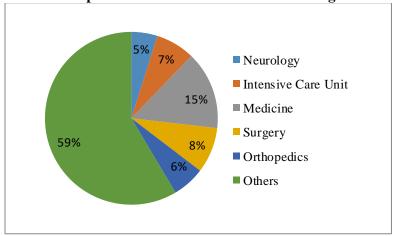
The graph shows that male respondents were 59.41% (n=49) while females account for 40.2% (n=33).

**Graph 2: Classification of Age** 



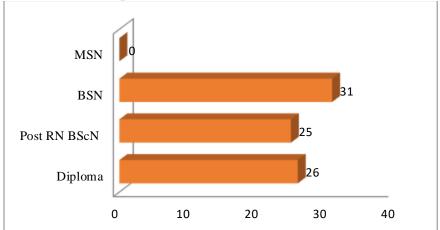
The graph shows that 40.24% (n=38) of respondents were aged 26-30 years, 30.49% (n=20) were 31-35 years, and 7.32% (n=11) were 36-40 years. Respondents aged 20-25 years accounted for 17.06% (n=6), while those above 40 years made up 4.66% (n=5).

**Graph 3: Classification of Area of working** 



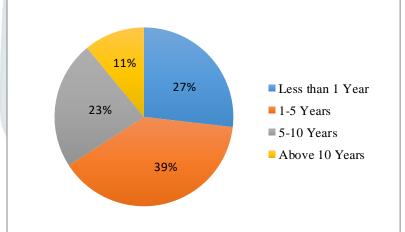
The graph illustrates that the majority, 59%, fall under "Others," indicating various unspecified specialties. Medicine comprises 15%, followed by Surgery at 8%, ICU at 7%, Orthopedics at 6%, and Neurology with the smallest share at 5%.





The graph shows that 31.7% (n=26) of the participants hold a diploma, and 30.4% (n=25) have completed a Post RN BSN program. Those with a BSN degree account for 37.8% (n=31) and no participant had an MSN degree.

**Graph 5: Classification of Experience** 



The graph displays the participants' years of professional experience. The majority of participants, 39% (n=32), have 1-5 years of experience. 23% (n=19) have 5-10 years of experience, while 27% (n=22) have less than 1 year of experience. 11% (n=9) of participants have above 10 years of experience.

TABLE 1: ATTITUDES OF THE PARTICIPANTS

(n=82)

STATEMENT		A	N	DA	Mean	St. Devi.
It is stressful for patients of the opposite gender to undergo physical examinations.	Freq	52	25	5	1.42	.609
	%	63.4%	30.5%	6.1%		
Many physical assessment skills are rarely or never applied in real-world situations.	Freq	46	20	16	1.63	.793
	%	56.1%	24.4%	19.5%		
The observed physical examination does not indicate that these findings are accurate.	Freq	48	18	16	1.60	.797
	%	58.5%	22%	19.5%		
Since no one takes my findings seriously, I don't undertake physical exams.	Freq	26	19	37	2.13	.871
	%	31.7%	23.2%	45.1%		
In certain hospital units, but not in others, a physical	Freq	42	14	26		.894
examination is necessary.	%	51.2%	7.7%	31.7%		
Diagnostic testing is more effective at identifying medical problems than physical examinations.	Freq	60	13	9	1.37	.678
	%	73.2%	15.9%	11%		
I frequently perform physical examinations because they improve the quality of my patient care.	Freq	62	14	6	1.37	.606
	%	75.6%	17.7%	7.3%		
Physical examinations boost my self-confidence, which is why I do this frequently.	Freq	71	10	1	1.14	.388
	%	86.6%	12.2%	1.2%		
Various diagnoses are easily made by physical examination.	Freq	60	19	3	1.30	.537
	%	73.2.	23.2%	3.7%		
Repetitive procedures are reduced when diagnostic testing is	Freq	51	27	4	1.42	.588
guided by the results of physical examinations.	%	62.2%	32.9%	4.9%		
Under work pressure, it is challenging to conduct a thorough and concentrated physical examination.	Freq	58	19	5	1.35	.595
	%	70.7%	23.2%	6.1%		
I conduct the physical examination since my institution requires it.	Freq	24	25	33	2.10	.831
	%	29.3%	30.5%	40.2%		
The physician is primarily responsible for performing physical examinations.	Freq1	11C39 K	2V1 <b>16</b> W	27	1.85	.890
	%	47.6%	19.5%	32.4%		
Building rapport and a trustworthy relationship with the patient requires a physical examination.	Freq	58	18	6	1.36	.618
	%	70.7%	22%	7.3%		
Physical examinations are time-consuming to do.	Freq	39	20	23	1.80	.852
	%	47.6%	24.4%	28%		

The data reveals mixed attitudes towards physical examinations among nurses. While 63.4% reported stress performing exams on patients of the opposite gender (mean = 1.42), 56.1% acknowledged that many physical assessment skills are rarely used (mean = 1.63). A significant portion (58.5%) felt physical exam findings were not always reliable (mean = 1.60), and 45.1% believed their findings were not taken seriously (mean = 2.13). On a positive note, 75.6% agreed that physical exams improve patient care (mean = 1.37), and 86.6% felt it boosted their confidence (mean = 1.14). However, 70.7% reported that heavy workloads hinder comprehensive exams (mean = 1.35). While 73.2% viewed diagnostic tests as more efficient than physical exams (mean = 1.37), 62.2% believed physical exams guide more efficient testing. Despite institutional requirements being a lesser motivator (29.3%), nurses recognized the value of physical exams in patient rapport (70.7%).

### **DISCUSSION**

Based on the data collected in this study, nurses' attitudes toward physical examination skills were assessed across various statements regarding their perceptions and practices. The results reveal significant insights into

how nurses approach physical examinations, the challenges they face, and their overall confidence in this essential skill. Findings identified valuable information concerning how nurses reason and perform physical examinations, the barriers incurred, and general self-perceived competence in this core competence of practice. Specifically, 63.4% of the nurses stated that physical examination of the opposite gender patients causes stress. This is consistent with another research study that reported the gender dynamics in healthcare for there is discomfort among both the patient and the healthcare workers during examinations (Livew et al., 2020; Jestoni D Maniago et al., 2021). The perceived stress suggests that nurses should undergo sensitivity training that would make them comfortable when examining patients of the opposite sex so that they may be able to handle the situations gracefully to improve the quality of services being rendered to the patients. Another notable finding is that 56.1% of nurses reported that many physical assessment skills are rarely or never used in practice. This finding is consistent with research by (Shi et al., 2020) which found that despite nurses being trained in these skills, they are often not implemented in clinical practice, possibly due to time constraints, reliance on diagnostic tests, or lack of confidence. This suggests the importance of not only training nurses in physical examination techniques but also creating an environment that encourages regular use of these skills. In terms of the reliability of physical exam findings, 58.5% of participants agreed that the results of physical exams do not guarantee the truth of the findings. This could reflect a lack of confidence in their examination abilities or a reliance on diagnostic tools to confirm or contradict physical exam findings, which is supported by recent studies (Salifu et al., 2024) These results highlight the need for further education to boost nurses' confidence in physical examination accuracy and to reinforce the role of physical assessments in clinical decision-making. A positive aspect revealed by the data is that 86.6% of nurses stated that performing physical exams increased their confidence in their abilities. This finding aligns with (Majchrowicz & Tomaszewska) who reported that performing physical exams enhances nurses' self-assurance, leading to improved care delivery. Additionally, a significant majority of nurses (70.7%) emphasized the importance of physical exams in establishing rapport and trust with patients. These results underline the dual role of physical examinations not only in diagnosis but also in fostering strong nurse-patient relationships, a key aspect of patient-centered care. The study also identified that 70.7% of participants felt that the high pressure of work made it almost impossible to perform comprehensive and focused physical examinations. This finding is consistent with research that found that time constraints and high workload are major barriers to performing thorough physical exams. Nurses are often pressured by the fast-paced nature of clinical settings, which compromises their ability to conduct comprehensive assessments(Luke et al., 2021). A significant portion of the sample (73.2%) preferred diagnostic tests over physical examinations in detecting patient problems. This preference mirrors the increasing reliance on technology in clinical settings (Gawlik et al., 2024; McCullough et al., 2023). While diagnostic tests provide quick results, physical examinations remain crucial in providing a holistic understanding of a patient's condition. This finding calls for a balanced approach, where diagnostic tests complement rather than replace physical exams. 29.3% of nurses stated that they conduct physical exams because it is required by their institution, indicating that institutional policies play a role in the frequency of physical assessments. Furthermore, 47.6% of nurses believed that conducting physical exams was primarily the responsibility of physicians. These results suggest that institutional frameworks and clarity in roles may influence nurses' engagement with physical examination tasks.

### **CONCLUSION**

According to the study's findings, nurses have a positive attitude toward the significance of physical examinations (PE) in patient care. However, several negative attitudes were identified, including discomfort with performing PE on opposite-gender patients, the underuse of PE skills, and the perception that PE tasks should primarily be performed by doctors. Additionally, workload pressures and unclear role definitions further hindered the effective use of PE. To address these issues, it is essential to enhance training programs, clarify roles, and promote Interprofessional collaboration to empower nurses and improve patient care.

#### LIMITATIONS

- The study's small sample size may not be representative of the entire nursing population, which could limit the generalizability of the findings.
- ➤ Conducting the study at only one institution restricts the applicability of the results to other healthcare settings.
- > The reliance on self-reported data may introduce response bias, as participants might provide socially desirable answers rather than their true attitudes.

#### RECOMMENDATIONS

- Implement comprehensive training programs focused on physical examination skills to build nurses' confidence and competence, especially in addressing gender-related concerns.
- Foster Interprofessional collaboration through workshops and team-building activities that emphasize the importance of physical examinations in patient care.
- ➤ Provide ongoing education opportunities, including refresher courses and skill assessments, to keep nursing staff updated on best practices in physical assessments.

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- 1. Sanya Jane: Conceptualization & Study Planning
- 2. Nasreen Rebecca Wilson: Supervision; Final Approval
- 3. Khalid Nadeem Bhatti: Methodology
- 4. Zafarullah Junejo: Manuscript Drafting; Literature Review
- 5. Azeem Muneer Bhatti: Statistical Analysis/Data Interpretation
- 6. Rachal Igbal: Data Acquisition
- 7. Mishma Joel: Review and Editing Medical Science Review

### **REFERENCES**

- Asante, N. (2024). Assessing Knowledge, Confidence, and Attitude Toward Virtual Care and Telehealth Among Graduate Nursing Students.
- Brown, M. C., Brown, J. D., & Bayer, M. M. (1987). Changing nursing practice through continuing education in physical assessment: perceived barriers to implementation. In (Vol. 18, pp. 111-115): SLACK Incorporated Thorofare, NJ.
- Chang, W.-C., Lan, T.-H., Ho, W.-C., & Lan, T.-Y. (2010). Factors affecting the use of health examinations by the elderly in Taiwan. *Archives of gerontology and geriatrics*, 50, S11-S16.
- Diggens, P. (2023). An exploration of nurses' use of history taking and physical assessment skills in adult acute care University of Southampton, University Library].
- Doğdu, A. K., Arikan, F., & Kol, E. (2021). Physical examination skills used by nursing students and determination the barriers encountered in the use of these skills. *J Educ Res Nurs*, 18(3), 335-340.
- Elder, A., Japp, A., & Verghese, A. (2016). How valuable is physical examination of the cardiovascular system? *Bmj*, 354.
- Epstein, R. M., & Street, R. L. (2011). The values and value of patient-centered care. In (Vol. 9, pp. 100-103): Annals Family Med.
- Fabiyi, R. B. (2022). Promoting nurse-patient therapeutic relationship in the Patient Assessment and Transition to Home unit at Peace Arch Hospital Royal Roads University (Canada)].

- Gawlik, K. S., Melnyk, B. M., & Teall, A. M. (2024). Evidence-based physical examination: Best practices for health and well-being assessment. Springer Publishing Company.
- Gharaibeh, B., Abuhammad, S., & Akhu-Zaheya, L. (2022). Attitudes toward physical examination skills among registered nurses in clinical settings in Jordan. *Informatics in Medicine Unlocked*, 32, 101027.
- Greene, J., & Ramos, C. (2021). A mixed methods examination of health care provider behaviors that build patients' trust. *Patient education and counseling*, 104(5), 1222-1228.
- Jepchumba Kiplagat, N. (2024). NURSE INTERNS'COMPETENCE IN PHYSICAL ASSESSMENT FOR ADULT PATIENTS IN HEALTH FACILITIES IN WESTERN REGION OF KENYA.
- Kulakaç, N., & Koçan, S. (2023). The Effect of the Physical Examination Course on Self-Confidence, Anxiety, and Knowledge Levels in the Postoperative Clinical Decision-Making Process Among Nursing Students. *ICONTECH INTERNATIONAL JOURNAL*, 7(3), 1-11.
- Liyew, B., Dejen Tilahun, A., & Kassew, T. (2020). Knowledge, Attitude, and Associated Factors towards Physical Assessment among Nurses Working in Intensive Care Units: A Multicenter Cross-Sectional Study. *Critical care research and practice*, 2020(1), 9145105.
- Liyew, B., Tilahun, A. D., & Kassew, T. (2021). Practices and barriers towards physical assessment among nurses working in intensive care units: Multicenter cross-sectional study. *BioMed research international*, 2021(1), 5524676.
- Lucas, N., Macaskill, P., Irwig, L., Moran, R., & Bogduk, N. (2009). Reliability of physical examination for diagnosis of myofascial trigger points: a systematic review of the literature. *The Clinical journal of pain*, 25(1), 80-89.
- Luke, S., Petitt, E., Tombrella, J., & McGoff, E. (2021). Virtual evaluation of clinical competence in nurse practitioner students. *Medical science educator*, 31(4), 1267-1271.
- Majchrowicz, B., & Tomaszewska, K. Usefulness of physical examination in the professional practice of nurses. *Nursing Problems/Problemy Pielęgniarstwa*, 31(2), 77-84.
- Maniago, J. D., Feliciano, E. E., Santos, A. M., Agunod, C. L., Adolfo, C. S., Vasquez, B. A.,...Almazan, J. U. (2021). Barriers in performing physical assessment among nursing students: An integrative review. *Int J Nurs Sci*, 8(1), 120-129. https://doi.org/10.1016/j.ijnss.2020.12.013
- Maniago, J. D., Feliciano, E. E., Santos, A. M., Agunod, C. L., Adolfo, C. S., Vasquez, B. A.,...Almazan, J. U. (2021). Barriers in performing physical assessment among nursing students: An integrative review. *Int J Nurs Sci*, 8(1), 120-129.
- Martin, R. D., & Naziruddin, Z. (2020). Systematic review of student anxiety and performance during objective structured clinical examinations. *Currents in Pharmacy Teaching and Learning*, 12(12), 1491-1497.
- McCullough, K., Andrew, L., Genoni, A., Dunham, M., Whitehead, L., & Porock, D. (2023). An examination of primary health care nursing service evaluation using the Donabedian model: A systematic review. *Research in nursing & health*, 46(1), 159-176.
- Mostafaee, N., Pashaei-Marandi, M., Negahban, H., Pirayeh, N., Saki Malehi, A., & Ebrahimzadeh, M. H. (2024). Examining the diagnostic accuracy of common physical examination and functional tests in the diagnosis of patellofemoral pain syndrome among patients with anterior knee pain. *Physiotherapy Theory and Practice*, 40(4), 843-855.
- Özdaş, A., & Kısacık, Ö. G. Nurses' Attitudes Towards Physical Examination and Influencing Factors: A Descriptive and Cross-Sectional Study. *Journal of Nursology*, 26(4), 297-306.
- s Babu, D. (2023). WOMEN'S PERCEPTIONS ON INTIMATE EXAMINATION AND PATIENT RIGHTS.
- Salifu, M. A., Salifu, D. A., & Gross, J. (2024). Registered general nurses' health assessment practices in a tertiary hospital: A focused ethnography study. *Nursing Open*, 11(7), e2237.
- Secrest, J. A., Norwood, B. R., & Dumont, P. M. (2005). Physical assessment skills: a descriptive study of what is taught and what is practiced. *Journal of Professional Nursing*, 21(2), 114-118.
- Shi, G., He, G.-F., Zhang, L.-L., Morrow, M. R., & Zhao, Y. (2020). Barriers to physical assessment:registered nurses in mainland China. *Nursing science quarterly*, *33*(1), 65-72.

- Tan, M. W., Lim, F. P., ling Siew, A., Levett-Jones, T., Chua, W. L., & Liaw, S. Y. (2021). Why are physical assessment skills not practiced? A systematic review with implications for nursing education. *Nurse Education Today*, 99, 104759.
- Veikkolainen, P., Tuovinen, T., Jarva, E., Tuomikoski, A.-M., Männistö, M., Pääkkönen, J.,...Reponen, J. (2023). eHealth competence building for future doctors and nurses—Attitudes and capabilities. *International Journal of Medical Informatics*, 169, 104912.
- Wheeldon, A. (2005). Exploring nursing roles: using physical assessment in the respiratory unit. *British Journal of Nursing*, 14(10), 571-574.
- Zeng, S. L., Harris, R., Tian, W. M., Emovon, E. O., & Phillips, B. T. (2024). Flipping Tradition on Its Head: A Single-Institution Study on United States Medical Licensing Examination Step Order. *Plastic and Reconstructive Surgery–Global Open*, 12(2), e5621.

