How to Cite:
Al-Shelaly , S. E., & Mansour , E. (2023). Nurses' attitude and barrier toward of performing physical assessment in medical and surgical wards. *International Journal of Health Sciences*, *6*(S7), 7027–7048. Retrieved from https://sciencescholar.us/journal/index.php/ijhs/article/view/14022

Nurses' attitude and barrier toward of performing physical assessment in medical and surgical wards

Safaa E. Al-Shelaly
RN, BSN, MSN, Medical Surgical Nursing department, King Saud university, Riyadh, Saudi Arabia
*Correspondence email: Wav_092@hotmail.com

Essmat Mansour
Assistant prof. in Medical-Surgical Nursing department, College of Nursing, King Saud University, Riyadh, Saudi Arabia

***Abstract*---**Background: Physical Assessment is an essential in identifying the potential patient problems and responses to care. Also, there are skills used "rarely" in the practice which reveals evidence of practice gap. Improper patient assessment has a concern on nursing practice which fail to recognize patient deterioration. Method: A cross-sectional design of 253 nurses from five hospitals in Al Madinah Al Munawarah, Saudi Arabia, to study the relationship between the nurses' attitudes and the barriers to perform physical assessment and participants' demographic data on the physical assessment practices. Finding: Around half of nurses showed a positive attitude toward performing the physical assessment. There was a positive significant association between attitude and perceived barriers of self-confidence, time limitation during the shift, and reliance on technology. Conclusion: This study suggests that improving nurses' practice of physical assessment should begin at the pre-graduation level to enhance skills, critical thinking, and self-confidence. Aim of this study: This study aimed to investigate the nurses' attitudes toward performing the physical assessments, and barrier influences the practices of physical assessment in the clinical settings. To the best of our knowledge, it is the first study discusses the PA practice of nurses in clinical settings in Saudi Arabia.

***Keywords*---**Nurses' barrier - Surgical wards – Physical assessment

Introduction

Nursing plays an essential role as a member of the healthcare multidisciplinary team in every health care organization. Globally, As Nursing grow professionally as a discipline, the role expanded to carry a critical function of sustain or regain and promoting the health of community and individual. For that reason, nursing education receives plenty of attention as a result of the development of healthcare (Al-Hazmi & Windsor, 2013). Multiple nursing collages were opened offering diploma and bachelor nursing program and expanded to Master and Doctorat.

These collages provide nursing curriculums in which students enrolled in theoretical and practical nursing subjects and science classes from another discipline such as chemistry, microbiology, physiology, psychology, and physics.

In addition, the students take simulation classes where they practice how to provide patient care in different situations. The ultimate goal is to prepare the students with the knowledge and skills to perform what is expected from them regardless of role, population, or specialty and to deal with the need of patients, family and the community at different complexity levels (Al Mutair, 2015).

Nursing assessment is an essential part of nursing education to get a complete picture of the patient, it will provide a lot of information on the patient's background, lifestyle, family history as well as the presence of illness and injuries (Crosson, 2015). iT has been integrated with the nursing curriculum as a competency-based course since the 1960s (James & Reaby, 1987), It refers to the systematic and continuous collection, organization, validation and documentation of information (Kozier, 2018). Assessment is the first phase in the nursing process which is a foundation of nursing practice, it is a problem-solving approach of patient care, a way of thinking and doing that guide the nursing practice. The nursing process consists of five phases: assessment, diagnosis, planning, intervention, and evaluation. American Nursing Association (ANA) emphasis that assessment is an essential part of the standards of professional nursing practice (American Nursing Association, 2015)(Wilkinson, 2007).

All aspects that may affect the health status of the client such as physical, psychosocial, emotional, spiritual, economical are considered, moreover data of current patient status, functional health, previous history, and other relevant information are gathered. During the assessment, the nurse-patient interaction began starting with the identification of needs and concerns and individualized care plan (Royal Marsden Manual, 2014) (West, 2006).

Physical Assessment (PA) is defined as the collection of objective patient data using the techniques of inspection, palpation, percussion, and auscultation(Wilson & Giddens, 2016). it has been taught in nursing school for decades to enhance the clinical reasoning and better understanding of the patient situation (A. Fennessey & Wittmann-Price, 2011).

Sometimes used interchangeably refers to the systematic collection of patient objective data by thoroughly examining the body systems by using 4 techniques (Smeltzer & Bare, 2005).

First is inspection which is an examination of the body by seeing, hearing, smelling and sense of touch, with or without an instrument (Jarvis, 2011; S. fickertt Wilson & Giddens, 2016).

Palpation is the second technique that is refers to examine the body by using the sense of touch to determine the skin temperature and moisture, shape, and mobility of an organ (Jarvis, 2011; S. fickertt Wilson & Giddens, 2016).

Auscultation refers to listening to the sound within the body structure directly by using a stethoscope (Jarvis, 2011; Wilson & Giddens, 2016).

Percussion, the last technique of striking the body surface performed by both hands (Jarvis, 2011; Wilson & Giddens, 2016)(Fennessey & Wittmann-Price, 2011; Kozier, 2018)(Wilkinson *et al.*, 2016).

James and colleagues (1987) discussed that the nurse must be initially equipped with the knowledge and skills adapted from different disciplines in human science (James & Reaby, 1987). Teaching physical assessment faced a considerable debate from the healthcare professional community because it is seen mostly medicine specialty. However, apparently, teach and train nurses on physical assessment skills facilitate an accurate evaluation of patient present condition whether improving or worsen which results in appropriate early recognition and intervention, moreover, enhancing the nurse decision-making skills (Lesa & Dixon, 2007)(Rushforth *et al.,* 1998).

Gidden and colleagues did a study on the use of PA by the nurses and found that there are skills sometimes used, and some rarely or never used in the practice which reveals evidence of practice gap. It was reported by *Birks et al.* (2013) that two-third PA skills are rarely or never used in practice (Birks *et al.,* 2013). Some nursing faculty and educators recommend the need to reduce the content of physical assessment that taught to be limited to the most frequently used skills.

The barrier which is defined asthea circumstance or obstacle that keeps people or things apart or prevents communication or progress."(Oxford Dictionaries | English., 2019). Also, the attitude (e.g. believing the physical assessment is important to evaluate patient condition) and the behavior (e.g. conducting physical assessment every shift) are interrelated therefore what factors affect nurses' implementation of physical assessment the way that counter the way they have been taught in nursing school. Finally, this framework seeks to infer the relationship between the nurses' attitude towards performing the physical assessment and the barrier that hinders its implementation and liking those with their demographic characteristics (Briñol *et al.,* 2019; Crano & Gardikiotis, 2015) (Allport, 1935).

The concept of attitude is probably the most distinctive and indispensable concept in contemporary social psychology.”. yet it is referring to "an individual's predisposed state of mind regarding a value and it is precipitated through a responsive expression toward a person, place, thing, or event (the attitude object) which in turn influences the individual's thought and action"(Perloff, 2010)(Wilkinson J. M., Treas L. S., Barnett K., 2016).

So, this study aimed to assess the nurses' attitudes and the barrier toward performing the physical assessments in medical and surgical wards.

Methodology

There are many questions in this research should be answered correctly as listed:

1. What is the attitude of nursing staff in medical and surgical wards toward the physical assessment practice?

2. What are the barriers that hinder or interfere with the nurse's practice of PA?

3. Is there any correlation between the nurses' attitude and demographic characteristics toward PA and barriers that interfere with the performing of it?

A descriptive cross-sectional design used (Parahoo, 2014)(Polit & Beck, 2017) (Parahoo, 2014) (Parahoo, 2014; Polit & Beck, 2017) and this study was conducted in five public governmental hospitals located in Al Madinah Al Munawarah in the northwest of Saudi Arabia. King Fahad Hospital (KFH), Ohed Hospital, Al Ansar general hospital, Al Meqat, and Madinah Rehabilitation hospitals.

To state the problem that many of the nurses perceive conduction physical assessment is solely a physician's responsibility. However, nursing assessment is integral to the safety, continuity, and quality of patient care (Douglas *et al.,* 2014).

The target population is the nurses who work in the inpatient units which provide a direct patient care, in medical, surgical, and intensive care units (ICUs) (West, 2006).

About the inclusion and exclusion criteria, the nurse who are working in the following department: Intensive care unit, Medical /Surgical unit, and One-Day care unit and providing care for adult population with both genders and either Saudi or non-Saudi nationality were included, while the nurse who are working in administrative unit and not providing direct patient care, who are either supervisors or nurse educators, who are working with pediatric and mentally ill patient, and who provides maternity care, operating rooms, emergency rooms and outpatient units were excluded.

The total number of nursing personal in the five hospitals estimated as 1714 nurses, and accessible populations who was 725 nurses. The sample size was determined by using the Raosoft sample size calculator, the required sample size at the confidence level of 95% is equal to 252 nurses with a margin of error of 5.90% (http://www.raosoft.com/samplesize.html).

The data of this study was measured using "The attitude and practice toward Physical examination scale" Gharaibeh *et al.* (2018).

The final version of the attitude and practice toward Physical examination scale consists of two parts:

Part I: The demographic data of the participants: age, gender, years of experience, and level of education, area of work.

Part II: About 20 items on Likert-type scale used answers that ranged from (1) totally disagree, (2) disagree, (3) neutral/neither agree nor disagree, (4) agree, and (5) totally agree. This version is simpler, shorter than the old version (Douglas *et al.,* 2014).

The ethical approval of this study is granted from both the Institutional Review Board at King Saud University and the Institutional Review Board of General Directorate of Health Affairs in Madinah.

The data collection was firstly: Pilot study on 33 nurses. The tool was shared and grant their permission verbally in June 2019. Secondly: The main collection was carried out from July 2019 till the end of August 2019; three hundred (20% of the sample size), a self-administrated questionnaire constructed by using Google Form transmitted through the Emails and what's up groups, unexpectedly, the poor response rate is noted in the five hospitals and only 288 questionnaires were returned, 35 responses are excluded due to significant loss of data, with a response rate of 87.27%.

The data was analyzed by the Statistical Package for Social Science software (SPSS) version 24. We replaced the missing data by the value (3) which is the midpoint of the fifth Likert scale, then recoded the negative items in the scale which are (3, 5, 6, 13, 14, and 15) as follow: 1 to be 5, 2 to be 4, 3 to be 3, 4 to be 2 and 5 to be 1. Other descriptive statistics of variables and summarized. To answer the first two research questions, the average and standard deviation for all responses on all items were calculated to interpret results. The interpretation rule to interpret the means of responses could be summarized by calculating the range of the scale, which is 5-1=4. Then dividing the range by the number of intervals, which is 4/5=0.80.

Table 1 The interpretation rule of this study

Value of the mean	Interpretation
1.00 – 1.80	Totally disagree
1.81 – 2.60	Disagree
2.61 – 3.40	Neutral
3.41 – 4.20	Agree
4.21 – 5.00	Totally agree

Using the t-test for independent samples, one-way analysis of variance (F-test for ANOVA) and LSD (least significant difference) as a post hoc test which are suitable the different types of variables group.

Results

The following table shows the bed capacities and sample saturation to five testes hospitals.

Table 2 The capacity of five hospitals in this study

Hospital	***KFH***	***Ohud***	***Al Ansar***	***Al Meqat***	***MRH***	***TOTAL***
bed capacity	500	250	90	70	90	1000
No. of accessible sample	400	102	125	62	36	725
35% to reach sample saturation	140	36	44	22	13	253

The following table showed the value of alpha Cronbach of pilot sample:

Table 3 the value of alpha Cronbach of pilot sample

Axes	***Dimension***	***Number of items***	***a-Cronbach value***
attitude	Technical deficiencies in PE	7	.860
	Benefits and usefulness of PE	5	.880
	All items	12	.942
barriers	Barriers to conduct PE	5	.895
	Cultural considerations	3	.818
	All items	8	.897

Table (1): alpha Cronbach coefficients of the instrument

All values of alpha Cronbach were greater than (0.70).

The researcher calculated the Pearson correlation coefficient between responses, as shown in the following table:

Table 4
Pearson correlation coefficient between responses on each item of each dimension

Attitude axes		***Barriers axes***	
Item	***r- value***	***Item***	***r- value***
A1	.850**	A13	.645**
A2	.609**	A14	.804**
A3	.949**	A15	.835**
A4	.668**	A16	.734**
A5	.701**	A17	.938**
A6	.750**	A18	.690**
A7	.559**	A19	.805**
A8	.870**	A20	.686**
A9	.944**		
A10	.916**		
A11	.763**		
A12	.890**		

** r value is significant at the level of significance (0.01)

In the following tables, the descriptive statistics of the subjects regarding their demographic variables.

Table 5 Frequency distribution for the subjects regarding age variable

Variable	**category**	**frequency**	**Percent (%)**
Age	20 -30	111	43.9
	31 -40	118	46.6
	41- above	24	9.5
	Total	253	100.0
Gender	Male	57	22.5
	Female	196	77.5
	Total	253	100.0
Nationality	Saudi	114	45.1
	Non-Saudi	139	54.9
	Total	253	100.0
Years of experience	less than one year	19	7.5
	1 year – less than 5 years	80	31.6
	5 years – 10 years	94	37.2
	more than 10 years	60	23.7
	Total	253	100.0
Educational level	Diploma,	86	34.0
	BSN	159	62.8
	MSN and above	8	3.2
	Total	253	100.0
Area of work	Adult Intensive care unit (ICU)	109	43.1

	Surgical ward	82	32.4
	Medical ward	52	20.5
	One daycare (ODC) unit	10	4.0
Total		**253**	**100.0**

From the above table that (47%) of the subjects' age was 31 to 40 years old. Most of the subjects were females (77%). It is seen that nearly (55%) of the sample were non-Saudis (n= 139). Nearly (37%) of the subjects had an experience of 5 to less than 10 years. Most of nurses who hold a bachelor's degree in nursing science (BSN), and nearly (3%) of them had a higher educational level. There is 94% (n=238) of the subjects work as a Staff nurse. Regarding to the Area of work variable, we see from the table that nearly 43% (n=109) of the subjects work in Adult Intensive care unit (ICU) while (4%) of them work in One daycare (ODC) unit.

The table below shows the means and standard deviations of all the items of attitude and their rank:

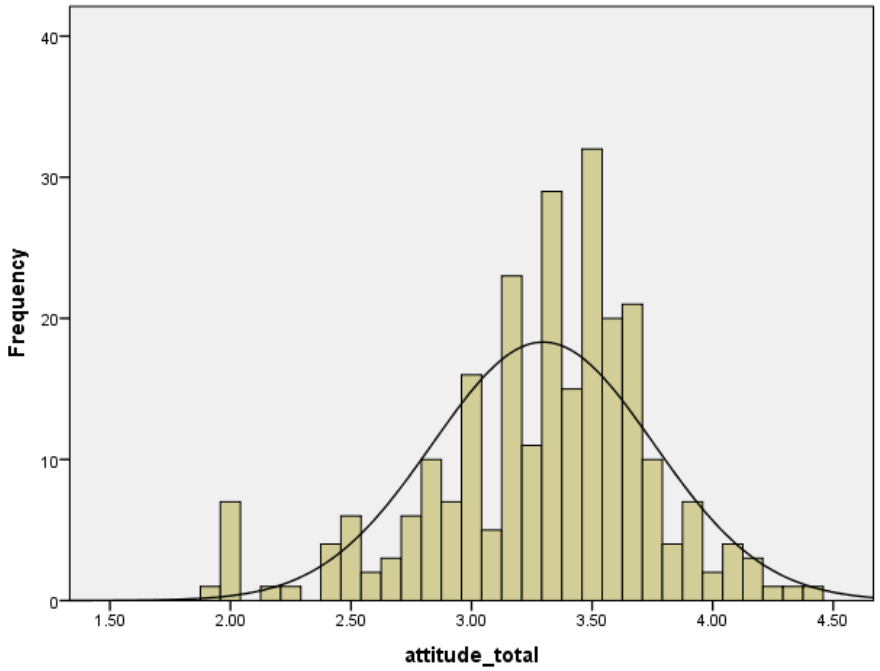
Table 6 The means and standard deviations for items of attitudes and subscales:

Item number	**Mean**	**Standard deviation**	**rank**
Technical deficiencies in PE	**2.92**	**0.40**	
1. There is no need to conduct Physical assessment if the patient will undergo diagnostic examinations such as CT or MRI.	1.89	1.11	12
2. physical assessment can be risky to some patients and may produce complications.	2.09	1.19	11
3. Conducting Physical assessment is NOT helpful because it is NOT a specific test (e.g. able to identify NORMAL findings when there is no problem, demonstrate NORMALITY finding when there is no disorder).	3.98	1.14	3
4. Physical assessment can be a source of risk to the nurse	2.10	1.20	10
5. Conducting Physical assessment is NOT helpful because it is NOT sensitive test (e.g. able to identify ABNORMAL findings when there is a problem, demonstrate ABNORMALITY of finding when there is a disorder).	3.90	1.10	6

6. Sometime in the future, Physical assessment as we know it will NOT be that helpful.	3.89	1.14	7
7. Physical assessment can be substituted by diagnostic procedures such as X-ray, CT scan, and others.	2.57	1.32	9
Benefits and usefulness of PE	**3.83**	**.85**	
8. Physical assessment enhances communication and caring opportunities with the patient.	3.96	1.08	4
9. Physical assessment is important to establish rapport and trusting relationship with the patient	4.02	1.01	2
10. Physical assessment is an integral part of nursing care for the patient	4.06	1.03	1
11. There are many diagnoses that can readily be made by Physical assessment.	3.92	1.06	5
12. Basing the choice of diagnostic studies on the results of Physical assessment is a reliable way to limit unnecessary testing.	3.19	1.19	8
All items	**3.30**	**0.46**	

The following figure shows the frequency curve of the distribution of responses for the total average of attitude items, which was approximately normalized around the mean value (3.30).

Figure 1 The frequency curve of responses on the total average of attitude items.



There is nearly 16% of the subjects disagreed corresponding to nearly 11% of the subjects who were agreed.

The first rank item was the item (10) with a mean (4.06) and S.D (1.03).

In the second rank, item (9) with a mean (4.02) and S.D (1.01).

In the 3rd rank, item (3) with a mean (3.98) and S.D (1.14). Remarkedly, the items (item2 and item4) got the low mean (2.10, 2.09) S.D (1.20 and 1.19).

The total average of all responses on all items of the barriers' subscales was (3.04) with S.D (0.43), it falls in the middle of agreement interval (2.61-3.40).

The frequency distribution of responses to the barriers' items showed that there is nearly 11% of the subjects disagreed corresponding to nearly 18% of the subjects who were agreed.

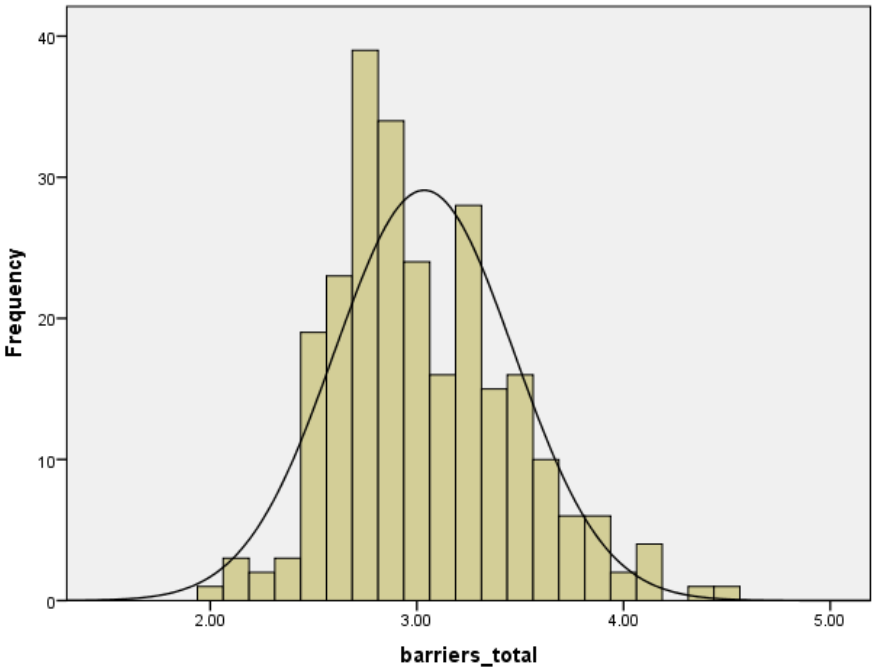
Table 7 The means and standard deviations for the barriers' items:

Item number	**Mean**	**Standard deviation**	**rank**
Barriers to conduct PA	**3.32**	**0.40**	

13. I do NOT do physical assessment because most of the nurses do NOT do physical assessment anyways	4.06	1.05	3
14. I do NOT do physical assessment often because I am NOT skillful or qualified.	4.08	1.05	2
15. I do NOT do physical assessment often because my physical assessment skills had become poor.	4.09	1.02	1
16. Many of the physical assessment skills I learned seem unpractical	2.14	1.10	8
17. Many of the physical assessment skills are never or rarely used in practice.	2.24	1.16	6
Cultural considerations	**2.55**	**1.06**	
18. Performing Physical assessment on patient of opposite gender is stressful to me	2.54	1.30	5
19. I skip Physical assessment if the patient is from the opposite gender	2.17	1.19	7
20. Culture and norms can be obstacle to do physical assessment specially when working with patient of opposite gender.	2.95	1.27	4
Cultural considerations	**2.55**	**1.06**	
All items	**3.04**	**0.43**	

The following figure shows the frequency curve of the distribution of responses for the total average of barriers items which was approximately normalized around the mean value (3.04).

Figure 2 The frequency curve of responses on the total average of barriers' items:



The total average of responses was (3.32) with S.D (0.40), and nearly 55% of the subjects who were agreed with compere with 6% who disagreed. Meanwhile, the average responses on all items of the Cultural considerations were (2.55) with S.D (1.06).

In regarding the items' ranking, we see that item (15 with a mean (4.09) and S.D (1.02).

In the second rank, item (14) with a mean (4.08) and S.D (1.05).

In the 3rd rank, item (13) with a mean (4.06) and S.D (1.05).

In contrast, the items 17 and 16 with mean= 2.17, S.D= 1.19, and mean=2.14, S.D 1.10.

Moreover, another item especially has scored the subject disagreement is the item (19) " I skip Physical assessment if the patient is from the opposite gender " with a mean (2.17), S.D (1.19).

Pearson correlation coefficient (*r*) for the dependent variables (attitude and barriers) and their subscales as shown in the following table:

Table 8 Pearson correlation coefficients between means of responses on all items of attitude and barriers:

attitude / barriers	All items	Technical deficiencies in PE	Benefits and usefulness of PE
All items	.140*	.148*	.084
Barriers to conduct PE	.078	-.027	.119
Cultural considerations	.104	.178**	.017

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

There is a positive and significant correlation between attitude of nursing staff toward the physical assessment practice and the barriers since the person correlation coefficient was (r=0.140, P=0.05).

In contrast, significant values (P < 0.05, two-tailed) found in the differences of mean for the barriers and the variables: gender (t=4.257, P=0.0001) and nationality (t=6.432, P=0.0001).

The following table shows the differences between means of all responses on all items of both attitude and barriers regarding the following demographic variables:

Table 9 T-test for independent groups between means of attitude and barriers regarding gender and nationality variables

Dependent variable	Demographic variable	categories	mean	t-value	Degrees of freedom	Sig value
	gender	male	3.3085	0.218	251	0.827
		female	3.2934			
attitude	nationality	Saudi	3.2646	-1.009	251	0.314
		Non-Saudi	3.3231			
Barriers	gender	male	3.2434	4.257	251	0.0001
		female	2.9745			
	nationality	Saudi	3.2149	6.432	251	0.0001
		non-Saudi	2.8876			

The significant values (P < 0.05, two-tailed)

There were no significant differences among means of responses for the attitude and significant differences among means of responses of subjects of barriers (F=4.954, P=0.008).

The results are shown in the table below:

Table 10 ANOVA for difference among averages responses on Attitude and barriers regarding age variable

Dimensions	Source of variance	Sum of Squares	df	Mean Square	F-value	Sig.
Attitude	Between groups	0.120	2	0.060	0.282	0.755
	Within groups	53.008	250	0.212		
Barriers	Between groups	1.808	2	0.904	4.954	0.008
	Within groups	45.615	250	0.182		

The significant values ($P < 0.05$, two-tailed)

To discover these differences, the Least Significant Difference (LSD). The result showed that the age group (31 – 40) were significantly agreed about the barriers (M= 3.1239, P= 0.05) more than other age groups (20 – 30) or (41 and above).

Table 11 LSD test to assign the differences among means of responses on barriers regarding age variable:

Age	Means	20 – 30	31 - 40	41 – above
20 – 30	2.9673			
31 – 40	3.1239	*		*
41 - above	2.9115			

* The mean difference is significant at the 0.05 level.

Table 12 ANOVA for difference among averages responses on Attitude and barriers regarding educational level variable

Dimensions	Source of variance	Sum of Squares	df	Mean Square	F-value	Sig.
attitude	Between groups	1.885	2	0.942	4.597	0.011
	Within groups	51.242	250	0.205		
barriers	Between groups	3.290	2	1.645	9.319	0.0001
	Within groups	44.133	250	0.177		

The significant values ($P < 0.05$, two-tailed)

The ANOVA test showed that the mean responses of the groups of educational levels are different (Tab.11) and found significant for both the attitude and Barriers items (*F*=0.011, *P*=0.05) and (*F*=0.0001, *P*=0.05).

Table 13 LSD test to assign the differences among means of responses of attitude and Barriers items respectively regarding educational level variable.

Educational level	Means	Diploma	BSN	MSN and above
Diploma	3.21			
BSN	3.32			
MSN and above	3.68	*	*	

Educational level	Means	Diploma	BSN	MSN and above
Diploma	3.13		*	
BSN	2.96			
MSN and above	3.50	*	*	

*. The mean difference is significant at the 0.05 level.

No statistically significant differences (P>0.05) among means of responses for each attitude (*F*=1.589, *P*=0.193) and barriers (*F*=1.979, *P*=0.118) items.

Discussion

In this study, a total of 253 nurses were surveyed in five hospitals in Madinah a part of Saudi Arabia. Globally, it was reported that nurses are not utilizing the PA skills taught in nursing college (Douglas *et al.*, 2015; Egilsdottir *et al.*, 2019).

This result is congruent with Azongo and his colleagues (2018) who reported the nurses valued their knowledge and skills contribution to saving patient lives, they also highlighted the impact of their autonomy in providing the right care after assessing and interpreting patient data, moreover, when they spoke the same language of the physicians which assists in accurately diagnose the patient condition (Azongo *et al.,* 2018).

This study revealed that the participants' responses about the factors hindered performing PA in clinical settings fell in the middle. Several studies were in agreement with this study (Alamri & Almazan, 2018; Douglas *et al.,* 2014;

Osborne *et al.,* 2015), suggesting that those factors are may lay an eye on what it could be the silent barriers to use PA for study samples.

In study of C. Douglas *et al* (2014),reported the reliance on others and technology is one barrier that notably influences nurses use of PA skills. These indifferent participants' responses may reflect the long-lived debate about the confusion of the nursing role and the tension of professional boundaries, arguing that nurses negotiate whether performing PA Is nursing responsibility.

Gidden (2007) stated in her study that the nurses are willing to learn more PA be confident which indicates the need for continuous skill development, also affirmed the possession of basic competency in PA for each nurse.

Correspondingly, the question here is whether the participants is not performing PA because they believe that some skills are not within the nursing scope of practice as evidence by not utilizing these skills (e.g. testing deep tendon reflex), or that the hospital/ward environment norms give less importance to nurses' PA so they are less competent in certain skills due to inability to practice. There is a need the investigate the actual PA skills nurses' practice that should not be only framed by checked the vital signs.

Another factor may hinder the use of PA in daily practice is time limitation in inpatient words (Douglas *et al.,* 2014). The finding of this study suggests that insufficient time to assess the patient's condition may impact the patient outcome. Recently the patient acuity increased and more critically ill patients are admitted or kept in the ward due to shortage in beds for example, these kind of needs close surveillance and monitoring which is burden the nurses in general wards who usually have 4 to 6 patients. This was supported by the work of Massey *et al* (2016) who highlighted that the nurses' timely assessment and intervention to condition deterioration are crucial for patient safety. So, the availability of time to practice is a necessary resource for conducting PA. That it could be achieved by train the nurses on the PA skills relevant to their scope of service so the nurse will be able to do just enough PA allow her to capture patient deterioration (Douglas *et al.,* 2016) (Birks *et al.,* 2013; Lesa & Dixon, 2007).

The awareness of these nurses about the cultural differences of the population could justify why they might not be affected by this issue. On the other hand, exploring the cultural competencies of the nursing personnel is imperative to provide nursing care by culturally competent nurses (Almutairi *et al.,* 2017).

Secondly, the current study found a variety of identifying barriers between the participants' educational levels, which is not consistent with previous studies (Douglas *et al.,* 2014; Giddens, 2007). Several authors studied the new nursing graduate first exposure to the clinical environment, the transition from student to becoming a professional staff nurse. Shocked by the reality of the clinical setting, novice nurses often confronted with the complexity of patients' conditions, demand of work, furthermore their colleague's expectations (Hussein *et al.,* 2017).

Ten Hoeve *et al* (2018) investigate the lived experience of eighteen nurses, bachelor's degrees graduate in their twenties, in their first year of employment

and they reported feeling incompetent unprepared and unable to cope when confronting with complex situation. However, support from colleague and physician boost their self-confidence in practice. This study suggests that uneasy transition experience for new haired nurses may contribute to inability to conducting PA (Al Awaisi *et al.,* 2015; Hoeve *et al.,* 2018). Therefore, pre-graduation preparation and continuous educational programs enhance transition also close the theory-practice gap along with organizational support.

This study shows that the younger employee and the senior employee have recognized the barriers to practice PA differently, whereas the participants between 31 to 40 years old significantly see no barriers to practice exist. According to Christensen *et al* (2017) who study the behavior and characteristic of the generations currently working at the healthcare organizations, each generation has a different perspective on how to act in the healthcare environment, moreover, according to Christensen *et al* (2017) they expect more flexibility in work with coworker but in return they need enhancement of interpersonal skills and well mentoring so they will be able to develop problem solving skills. Simply, we argue that these generation characteristics may explain their perception about presence of barriers to practice PA where the role conflict is the main factor hinder their utilization of PA skills (Christensen & Wilson, 2018).

Regarding the samples' years of experience surprisingly did not influence the participants' utilization of PA. This result is opposite the finding of Douglas *et al* (2014) who found that there is a difference between the experienced nurses and less experienced nurses, where less experienced nurses more likely to perceive barriers to PA (Osborne *et al.,* 2015).

Conclusion

In conclusion, the nurses show a positive attitude toward performing the physical assessment. It suggests that the nurses agree that the knowledge and skills they possessed and their awareness of what is the importance of physical assessment in providing holistic care which could not be achieved without proper identification of patient needs through assessment.

Acknowledgment

I would like to express my thankfulness to Dr. Essmat, the thesis supervisor, for her guidance, assistance, and mentoring not only during the research.

Limitations and Recommendations of Study

This study does not involve other specialties like pediatric, maternity, the mental population in Al Madinah Al Munawara hospitals are limitation to generalizing of the finding to other population. Moreover, the study was conducted using a cross-sectional design at a particular time, also using a convenient sample limited the generalizability of results. In addition to that, collecting the data by a self-administered questionnaire which may not reflect the exact phenomena and its susceptibility to bias.

This study participants are recruited from a different nationality, so, further research on Saudi nurses are needed to examine their practices of PA and there is a need to explore barriers to practice of novice nurses after graduation and joining the clinical environment and understand how the professional identity of the Saudi nurse may contribute to the performing PA.

The University, Ministry of health, and author approvals in addition to study tools are attached in a separate supplementary file.

References

Abelsson, A., & Bisholt, B. (2017). Nurse students learning acute care by simulation – Focus on observation and debriefing. *Nurse Education in Practice*, *24*, 6–13. https://doi.org/10.1016/j.nepr.2017.03.001

Al-Hazmi, A., & Windsor, D. C. (2013). The Role of Nurse Educators in Student Clinical Education in Saudi Arabia. *GSTF International Journal of Nursing and Health Care, Volume 1 Number 1*, *1*(1). https://doi.org/10.5176/2345-718x_1.1.14

Al Mutair, A. (2015). Clinical Nursing Teaching in Saudi Arabia Challenges and Suggested Solutions. *Journal of Nursing & Care*, *s1*, 1–4. https://doi.org/10.4172/2167-1168.S1-007

Alamri, M. S., & Almazan, J. U. (2018). Barriers of physical assessment skills among nursing students in Arab Peninsula. *International Journal of Health Sciences*, *12*(3), 58–66.

Aldawood, A. A. (2017). *Developing culturally appropriate leadership for nursing in Saudi Arabia*. *December*, 35–43.

Aldridge-Bent, S. (2011). Advanced physical assessment skills: implementation of a module. *British Journal of Community Nursing*, *16*(2), 84–88. https://doi.org/10.12968/bjcn.2011.16.2.84

Alghamdi, R., Albloushi, M., Alzahrani, E., Aldawsari, A., & Alyousef, S. (2019). Nursing Education Challenges from Saudi Nurse Educators' and Leaders' Perspectives: A Qualitative Descriptive Study. *International Journal of Nursing Education Scholarship*, *16*(1). https://doi.org/10.1515/ijnes-2018-0027

Aucoin, J. W. (2004). Nursing: Scope and standards of practice. *Journal of Radiology Nursing*, *23*(2), 46–48. https://doi.org/10.1016/j.jradnu.2004.04.006

Barker, A. M. (2009). *Advanced practice nursing : essential knowledge for the profession*. Jones and Bartlett Publishers.

Benner Patricia. (2012). Educating Nurses: A Call for Radical Transformation-How Far Have We Come? *Journal of Nursing Education*, *Vol. 51*,(No. 4,). https://doi.org/10.3928/01484834-20120402-01

Birks, M., Cant, R., James, A., Chung, C., & Davis, J. (2013). The use of physical assessment skills by registered nurses in Australia: Issues for nursing education. *Collegian*, *20*(1), 27–33. https://doi.org/10.1016/J.COLEGN.2012.02.004

Bliss, M., & Aitken, L. M. (2018a). Does simulation enhance nurses' ability to assess deteriorating patients? *Nurse Education in Practice*, *28*, 20–26. https://doi.org/10.1016/j.nepr.2017.09.009

Bliss, M., & Aitken, L. M. (2018b). Does simulation enhance nurses' ability to assess deteriorating patients? *Nurse Education in Practice*, *28*, 20–26.

https://doi.org/10.1016/j.nepr.2017.09.009
Briñol, P., Petty, R. E., Guyer, J. J., Briñol, P., Petty, R. E., & Guyer, J. J. (2019). A Historical View on Attitudes and Persuasion. In *Oxford Research Encyclopedia of Psychology* (Issue June). https://doi.org/10.1093/acrefore/9780190236557.013.510
Brown, M. C., Brown, J. D., & Bayer, M. M. (1987). Changing nursing practice through continuing education in physical assessment: perceived barriers to implementation. *Journal of Continuing Education in Nursing*, *18*(4), 111–115. https://doi.org/10.3928/0022-0124-19870701-03
Cicolini, G., Tomietto, M., Simonetti, V., Comparcini, D., Flacco, M. E., Carvello, M., & Manzoli, L. (2015). Physical assessment techniques performed by Italian registered nurses: a quantitative survey. *Journal of Clinical Nursing*, *24*(23–24), 3700–3706. https://doi.org/10.1111/jocn.12997
Colwell, C. B., & Smith, J. (1985). Determining the use of physical assessment skills in the clinical setting. *The Journal of Nursing Education*, *24*(8), 333–339. https://doi.org/10.3928/0148-4834-19851001-07
Coombs, M. A., & Moorse, S. E. (2002). Physical assessment skills: A developing dimension of clinical nursing practice. *Intensive and Critical Care Nursing*, *18*(4), 200–210. https://doi.org/10.1016/S0964339702000447
Cooper, S., Buykx, P., McConnell-Henry, T., Kinsman, L., & McDermott, S. (2011). Simulation: can it eliminate failure to rescue? In *Nursing times* (Vol. 107, Issue 3, pp. 18–20).
Cox, H., James, J., & Hunt, J. (2006). The experiences of trained nurses caring for critically ill patients within a general ward setting. *Intensive and Critical Care Nursing*, *22*(5), 283–293. https://doi.org/10.1016/j.iccn.2006.02.003
Crano, W. D., & Gardikiotis, A. (2015). Attitude Formation and Change. *International Encyclopedia of the Social & Behavioral Sciences: Second Edition*, *December 2017*, 169–174. https://doi.org/10.1016/B978-0-08-097086-8.24004-X
Crosson, J. A. (2015). Keeping Patients Safe: The Importance of Collaboration. *AORN Journal*, *101*(2), 279–281. https://doi.org/10.1016/j.aorn.2014.11.006
Currey, J., Massey, D., Allen, J., & Jones, D. (2018). What nurses involved in a Medical Emergency Teams consider the most vital areas of knowledge and skill when delivering care to the deteriorating ward patient. A nurse-oriented curriculum development project. *Nurse Education Today*, *67*, 77–82. https://doi.org/10.1016/j.nedt.2018.05.009
Dalton, M., Harrison, J., Malin, A., & Leavey, C. (2018). *Response To Acute Deterioration*. *27*(4).
Del Bueno, D. (2005). A crisis in critical thinking. *Nursing Education Perspectives*, *26*(5), 278–282. https://doi.org/10.1043/1536-5026(2005)026[0278:ACICT]2.0.CO;2
Disher, J., Burgum, A., Desai, A., Fallon, C., Hart, P. L., & Aduddell, K. (2014). The Effect of Unit-Based Simulation on Nurses' Identification of Deteriorating Patients. *Journal for Nurses in Professional Development*, *30*(1), 21–28. https://doi.org/10.1097/NND.0b013e31829e6c83
Douglas, C., Booker, C., Fox, R., Windsor, C., Osborne, S., & Gardner, G. (2016). Nursing physical assessment for patient safety in general wards: reaching consensus on core skills. *Molecular Ecology*, *25*(13–14), 1890–1900. https://doi.org/10.1111/jocn.13201

Douglas, C., Gardner, G., Osborne, S., Reid, C., Batch, M., Hollingdrake, O., Gardner, G., Richter, K., Mason, K., Booker, C., Dally-Watkins, D., Main, E., Fox, R., Peisker, K., Buda, M., Collier, T. G., Groom, P., Jamieson, S., & Foster, M. (2014). What factors influence nurses' assessment practices? Development of the Barriers to Nurses' use of Physical Assessment Scale. *Journal of Advanced Nursing*, *70*(11), 2683–2694. https://doi.org/10.1111/jan.12408

Douglas, C., Windsor, C., & Lewis, P. (2015). Too much knowledge for a nurse? Use of physical assessment by final-semester nursing students. *Nursing & Health Sciences*, *17*(4), 492–499. https://doi.org/10.1111/nhs.12223

Duff, B., Student, D., Services, S., Hospital, N. G., Coast, S., Health, C., District, S., Gardiner, G., Hospital, W., & Downs, S. (2007). *the Impact of Surgical Ward Nurses Practising*. *24*(4).

Edmunds, L., Ward, S., & Barnes, R. (2010). The use of advanced physical assessment skills by cardiac nurses. *British Journal of Nursing*, *19*(5), 282–287. https://doi.org/10.12968/bjon.2010.19.5.47058

Egilsdottir, H. Ö., Byermoen, K. R., Moen, A., & Eide, H. (2019). Revitalizing physical assessment in undergraduate nursing education - what skills are important to learn, and how are these skills applied during clinical rotation? A cohort study. *BMC Nursing*, *18*(1), 41. https://doi.org/10.1186/s12912-019-0364-9

Fennessey, A. G. (2016). The relationship of burnout, work environment, and knowledge to self-reported performance of physical assessment by registered nurses. *MEDSURG Nursing*, *25*(5), 346–350.

Fennessey, A., & Wittmann-Price, R. A. (2011). Physical assessment: a continuing need for clarification. *Nursing Forum*, *46*(1), 45–50. https://doi.org/10.1111/j.1744-6198.2010.00209.x

Gazarian, P. K., Henneman, E. A., & Chandler, G. E. (2010). Nurse decision making in the prearrest period. *Clinical Nursing Research*, *19*(1), 21–37. https://doi.org/10.1177/1054773809353161

Gharaibeh, B., Al-Smadi, A. M., Ashour, A., & Slater, P. (2018). Development and psychometric testing of the Physical Examination Attitudes and Practices Scale. *Nursing Forum*. https://doi.org/10.1111/nuf.12304

Giddens, J.F. (2007). A survey of physical assessment techniques performed by RNs: Lessons for nursing education. *Journal of Nursing Education*, *46*(2), 83–88.

Giddens, Jean Foret, & Eddy, L. (2009). A survey of physical examination skills taught in undergraduate nursing programs: Are we teaching too much? *Journal of Nursing Education*, *48*(1), 24–29. https://doi.org/10.3928/01484834-20090101-05

James, J., & Reaby, L. (1987). Physical assessment skills for RNs? *The Australian Nurses" Journal*, *17*(1), 39–41.

Jarvis, C. (2011). *Physical Examination and Health Assessment*. 313. https://www.elsevier.com/books/physical-examination-and-health-assessment/jarvis/978-0-323-51080-6

Kavanagh, J. M., & Szweda, C. (2017). *A Crisis in Competency: The Strategic and Ethical Imperative to Assessing New Graduate Nurses' Clinical Reasoning*. https://doi.org/10.1097/01.NEP.0000000000000112

Kolb, D. (2014). *Experiential learning: Experience as the source of learning and development*.

https://books.google.com/books?hl=en&lr=&id=jpbeBQAAQBAJ&oi=fnd&pg=PR7&ots=Vn9RmWYVQb&sig=E8EyX70DQkdysgtHw4GaAWG_aqQ

Kozier, B. (2018). *Fundamentals of Canadian nursing : concepts, process, and practice* (4 th).

Lesa, R., & Dixon, A. (2007). Physical assessment: implications for nurse educators and nursing practice. *International Nursing Review*, *54*(2), 166–172. https://doi.org/10.1111/j.1466-7657.2007.00536.x

Lynaugh, J. E., & Bates, B. (1973). The Two Lansuases o f Nursins and Medicine. *American Journal of Nursing*.

Massey, D., Chaboyer, W., & Anderson, V. (2017). What factors influence ward nurses' recognition of and response to patient deterioration? An integrative review of the literature. *Nursing Open*, *4*(1), 6–23. https://doi.org/10.1002/nop2.53

McDonnell, A., Tod, A., Bray, K., Bainbridge, D., Adsetts, D., & Walters, S. (2013). A before and after study assessing the impact of a new model for recognizing and responding to early signs of deterioration in an acute hospital. *Journal of Advanced Nursing*, *69*(1), 41–52. https://doi.org/10.1111/j.1365-2648.2012.05986.x

Mitoma, R., & Yamauchi, T. (2018). Effect of a physical assessment educational program on clinical practice. *Journal of Nursing Education and Practice*, *8*(8). https://doi.org/10.5430/jnep.v8n8p96

Osborne, S., Douglas, C., Reid, C., Jones, L., & Gardner, G. (2015). The primacy of vital signs – Acute care nurses' and midwives' use of physical assessment skills: A cross sectional study. *International Journal of Nursing Studies*, *52*(5), 951–962. https://doi.org/10.1016/j.ijnurstu.2015.01.014

Oxford Dictionaries | English. (2019). *barrier | Definition of barrier in English by Oxford Dictionaries*. https://en.oxforddictionaries.com/definition/barrier

Pantazopoulos, I., Tsoni, A., Kouskouni, E., Papadimitriou, L., Johnson, E. O., & Xanthos, T. (2012). Factors influencing nurses' decisions to activate medical emergency teams. *Journal of Clinical Nursing*, *21*(17–18), 2668–2678. https://doi.org/10.1111/j.1365-2702.2012.04080.x

Parahoo, K. (2014). Nursing Research: principles, process and issues Basingstoke: Palgrave Macmillan. In *Nursing Research: principles, process and issues Basingstoke: Palgrave Macmillan*.

Perloff, R. M. (2010). *The Dynamics of Persuasion: Communication and Attitudes in the Twenty-First Century (Google eBook)*. Lawrence Erlbaum Associates. http://books.google.com/books?hl=en&lr=&id=XNjawXqVflYC&pgis=1

Polit, D. F., & Beck, C. T. (2017). Nursing Research Generating and Assessing Evidence for Nursing Practice. In *Nurse Education in Practice* (Vol. 13, Issue 6). LWW; Tenth, North American edition. https://doi.org/10.1016/j.nepr.2013.04.001

Purling, A., & King, L. (2012). A literature review: Graduate nurses' preparedness for recognising and responding to the deteriorating patient. In *Journal of Clinical Nursing* (Vol. 21, Issues 23–24, pp. 3451–3465). John Wiley & Sons, Ltd. https://doi.org/10.1111/j.1365-2702.2012.04348.x

Royal Marsden Manual. (2014). Part One Managing the patient journey. *Royal Marsden Manual*, *December*, 7–36. https://doi.org/10.1109/VSMM.2010.5665961

Rushforth, H., Warner, J., Burge, D., & Glasper, E. A. (1998). *Nursing physical assessment skills: implication for UK pracice*. *7*(16).

https://doi.org/10.12968/bjon.1998.7.16.5611

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. https://doi.org/10.1016/j.profnurs.2005.01.004

Shortridge, L., Habif, L., Smith, M., & Starke, A. (1977). Opportunity to learn physical assessment in a continuing education course. *Journal of Continuing Education in Nursing*, *8*(4), 6–11. https://doi.org/10.3928/0022-0124-19770701-05

Smeltzer, S. C. O., & Bare, B. G. (2005). *Textbook of Medical-Surgical Nursing. Brunner & Suddarth*.

West, S. L. (2006). Physical assessment: whose role is it anyway? In *Nursing in critical care* (Vol. 11, Issue 4, pp. 161–167). https://doi.org/10.1111/j.1362-1017.2006.00161.x

Wilkinson, J. (2007). *The nursing process and critical thinking*. Pearson/Prentice Hall. https://trove.nla.gov.au/work/19541546?q&sort=holdings+desc&_=1553716658633&versionId=46350774+51592466

Wilkinson J. M., Treas L. S., Barnett K., S. M. H. (2016). Fundamentals of Nursing. *F. A. Davis Company*, *1*. https://doi.org/10.1017/CBO9781107415324.004

Wilson, M., & Lillibridge, J. (1995). Health assessment: A study of registered nurses' knowledge and skill level. *Contemporary Nurse*, *4*(3), 116–122. https://doi.org/10.5172/conu.4.3.116

Wilson, S. fickertt, & Giddens, J. F. (2016). *Health Assessment for Nursing Practice - 6th Edition*. https://www.elsevier.com/books/health-assessment-for-nursing-practice/wilson/978-0-323-37776-8

Zambas, S. I. (2010). Purpose of the Systematic Physical Assessment in Everyday Practice: Critique of a "Sacred Cow." *Journal of Nursing Education*, *49*(6). https://doi.org/10.3928/01484824-20100224-03