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

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**Abstract**---Background: Physical Assessment is essential in identifying the actual and potential patient problems and evaluating patient response to care. previous studies on the use of physical assessment in a clinical setting found that there are skills sometimes used, and some rarely or never used in the practice which reveals evidence of practice gap. Improper patient assessment rose the concern about the actual nursing practice which fail to recognize patient deterioration. Method: A quantitative descriptive correlation cross-sectional design of 253 nurses recruited from five hospitals in Al Madinah Al Munawarah in Saudi Arabia is used to study the relationship between the nurses' attitudes and the barriers to perform physical assessment and understand the influence of the participants' demographic data on the physical assessment practices. Finding: There was an agreement that physical assessment is an integral part of nursing care and around half of them 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 others and technology. Conclusion: This study suggests that improving nurses' practice of physical assessment should begin at the pre-graduation level to enhance skills acquisition and critical thinking, and to build self-confidence. Also, investigate nursing practice environment to hinder use of physical assessment. 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 setting. To the best of our knowledge, this study is the first study discussed the PA practice of nurses within the clinical setting in Saudi Arabia

**Keywords**--- Nurses Attitude – Medical 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. More than 50 years ago Saudi government established several nursing institutes to equip the health care organization with licensed nurses in response to the country's overall development. 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, which expanded later to offer programs for Master and Doctorate in nursing science. 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. They also attend clinical practicum courses throughout the semesters to adjust to the clinical environment and as well have hands-on practice and deal with real clients. 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).

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 which they " are authoritative statements of the duties that all registered nurses, regardless of role, population, or specialty, are expected to perform competently" ANA (American Nursing Association, 2015).

Nursing assessment is the first input of this process where the nurse appraises the patient situation. The nurse needs to initiate assessments in order to efficiently provide care and achieve a better outcome. Nursing assessment is an essential part of nursing education and 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). It allows for a thorough collection of pertinent data about the patient condition to develop a plan of care. It' a dynamic process starts with recognizing the problems and planning care, adapting the care to changing patient condition thus ensure the continuity of care.

The purpose of nursing assessment is 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). The nursing assessment usually focuses on the patient's need rather than disease

process and physiology (Wilkinson, 2007) This can be achieved by approaching and interviewing the patient to collect data regarding the health history and conducting physical assessment. 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). A detailed assessment is important in holistic care where the safety of the patient is highly influenced by the detailed physical examination and informed decision-making (West, 2006).

Physical Assessment (PA) or physical examination which is defined as the collection of objective patient data using the techniques of inspection, palpation, percussion, and auscultation (S. Fickertt 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 like penlight, otoscope or ophthalmoscope. Mainly the assessment of shape, color, symmetry, contour, moisture, texture position and gait are done by inspection. The quiet environment and adequate lighting are important for the accuracy of the result (Jarvis, 2011; S. Fickertt Wilson & Giddens, 2016).

Palpation is the second technique that refers to examine the body by using the sense of touch where fingertip, finger pad, the palm and dorsum of the hand to determine the skin temperature and moisture, the size, shape, and mobility of an organ, also presence of mass, tenderness, pain or distension of the underlying body structure. Also, the vibration is examined by placing the palm of the hand over the body surface. Palpation can be in two ways light and deep palpation (Jarvis, 2011; S. Fickertt Wilson & Giddens, 2016).

Auscultation is the third technique; it refers to listening to the sound within the body structure directly by using a stethoscope or indirectly by unassisted ears to determine the normal and abnormal sound. Low to high pitch sound produced by the valve of heart, respiration and bowel movement are examined to determine quality, intensity, and duration (Jarvis, 2011; S. Fickertt Wilson & Giddens, 2016).

Percussion, the last technique, is the act of striking the body surface performed by both hands to generate sounds or vibration response. It is usually used to examine the internal organ size and shape or border, also to determine if the tissue is filled with fluid or air or solid. Five types of the sound can be heard over specific underlying structures: flatness, dullness, resonance, hyperresonance and tympanic. Each sound location, pitches, and duration determine the normality (Jarvis, 2011; S. Fickertt Wilson & Giddens, 2016).

Physical assessment must be done because it enables the nurse to obtain the baseline information about actual and potential health problems and overall patient condition which is, later, compared with new information collected on ongoing assessment (A. Fennessey & Wittmann-Price, 2011; Kozier, 2018).

Three types of assessment the nurse can perform according to the patient situation either comprehensive assessment if the patient is newly admitted to the facility, problem-focus assessment like the patient who presented at the emergency room, and ongoing assessment when a patient condition needs to be checked continuously (Wilkinson J. M., Treas L. S., Barnett K., 2016). The goal is to accurately make a clinical judgment and carry out an individualized plan of care. Furthermore, providing data about the patient that the nurse interprets and analyzes to make a decision and act appropriately.

The nursing process is a critical thinking process. However, nurses usually find themselves dealing with a situation where a patient's condition may change every hour or minute, notably, she/he will need appropriate knowledge to respond accurately. 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). Having this basic data enable the nurse to assess the patient condition, make judgment and clinical decision, and reevaluate patient responses in order to provide holistic care.

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).

Many researchers reported that although physical assessment has been taught to nursing students; the use and frequency of utilization of physical assessment in practice still a repeated question (Rushforth *et al.*, 1998).

The nurse themselves repeatedly question the teaching many PA skills that are not used in the practice. On the other hand, The nurses in clinical settings primarily perceived physical assessment as all about recording and monitoring the vital signs like heart rate, blood pressure, respiratory rate and temperature (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 **as the** circumstance or obstacle that keeps people or things apart or prevents communication or progress."(Oxford Dictionaries | English., 2019). It refers to factors that influence the nurses' attitude positively

or negatively. It may be related to personal factors, organizational factors, social factors, or environmental factors. 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.

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). The attitude as a concept consists of three components: 1. Cognitive component: knowledge and set of ideas or facts. 2. Affective component: emotion, feeling, and preference. 3. Behavioral component: action and reaction toward an object. A person's attitude toward something is described as good or bad, positive or negative. It is determined by the information he received, his feeling, and belief, it also involves the tendencies to react in a certain way(Briñol *et al.*, 2019) (Allport, 1935).

Attitude is formed through exposure to different experiences or situations, whereby the actions and responses shape by belief and feeling about that attitude object which is constructed by predisposing knowledge, although it is a persistent state of mind it can be changed from time to time. The socialization processes help to consolidate the belief and feeling whereas social groups strongly influence the behavior of group members (Briñol *et al.*, 2019; Crano & Gardikiotis, 2015). However, through exploring of how the nurses behave toward Physical assessment, the more understanding of how their attitude formed in the first place is obtainable, so, the reasons underneath the problem can be analyzed to manipulate their attitude to reform it.

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 study 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.

A few studies investigated both registered nurses and nursing students PA practices show that some factors influence its utilization like nurse's confidence, lack of time, ward culture, reliance on technology, lack of nursing role model, lack of influence on patient care and the specialty area (Alamri & Almazan, 2018; Douglas *et al.*, 2014; J.F. Giddens, 2007). These researchers highlighted the presence of the theory-practice gap which revealed by a variation on the utilization of PA skills and go along with perceived factors that hinder its practices

(Edmunds *et al.*, 2010). It was reported that the key reasons for not using PA are the lack of confidence and competencies of performing these skills. In addition, the ambiguity of roles between the physicians and nurses where the nurses perceived performing PA is solely a medical specialty (Colwell & Smith, 1985). Given the importance of PA in constructing the nursing care, PA is essential in identifying the actual and potential patient problems, making sound clinical judgment and evaluating patient response to care. In fact, improper patient assessment rose the concern about the actual nursing practice which fail to recognize patient deterioration (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 and effectively, the research questions are 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 toward PA and barriers that interfere with the performing of it?
4. Is there any correlation between the nurse's demographic characteristics and Barriers and attitude toward performing PA?

Regrading, the study design, a quantitative descriptive correlation cross-sectional design is appropriate to answer the research question, where it allows understanding the phenomena by observing the interaction between the characteristics of the samples and the study variables, that is, to describe the nurses' attitudes and barriers to use of physical assessment. The quantitative research approach is suitable to analyze the objective nature of the study concepts statistically (Parahoo, 2014). Moreover, it allows for a wide range of data that is presumable as a representative sample, more efficient (Polit & Beck, 2017) and useful in knowing the pattern or trend of the population (Parahoo, 2014). Descriptive designs seek to understand the nature of relationships between the study variables. Also, using correlational design allow the researcher to investigate whether there is an association between the variables which are usually unrelated, how strong the relationships are in specific periods (Parahoo, 2014; Polit & Beck, 2017). The study is looking for a relationship between the attitude of nurses toward performing PA skills and factors that hinder their practice. Also, the study attempted to examine the differences in participants' demographic information and their attitude and perceived barriers.

This study was conducted in five public governmental hospitals located in Al Madinah Al Munawarah in the northwest of Saudi Arabia. King Fahed Hospital

(KFH) is the tertiary hospital in Al Madinah Al Munawarah region where is receiving most of the referral cases from all Madinah region and Hail city. Ohed Hospital is the second biggest hospital. Al Ansar general hospital which is located near to Al-Masjid a Nabawi and receiving most of the visitors and Pilgrims. Al Meqat and Madinah Rehabilitation hospitals that are providing care for patients who need long term care and but has no intensive care unit like other hospitals. In addition, these hospitals are providing education and pre and post-graduation training programs to different healthcare professionals.

To state the problem that is tended to be resolved in this study, we should know that nurses tend to rely on technology or diagnostic studies to assess the patient's condition or as reported in the literature on their intuitive judgment. Many of the nurses perceive conduction physical assessment is solely a physician's responsibility and their role is to assist the medical staff to perform it. However, nursing assessment is integral to the safety, continuity, and quality of patient care (Douglas *et al.*, 2014).

The target population in this study 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 sampling was designed by a non-probability convenience sampling method is utilized to recruit the participants. This type of sampling allows the researcher to investigate the available participants and draw a representative sample. Even though convenience sampling is subjected to bias, it is the most used methods in nursing research (Polit & Beck, 2017). However, using convenience sampling the easiest way to recruit the participants. Furthermore, the researcher attempted to use an online survey that to be distributed throughout the Email to the target population, and to reach a large number of the desired sample. The total number of nursing personal in the five hospitals estimated as 1714 nurses, but the number of accessible populations who met the inclusion criteria 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 the current study was measured after **their collection** using "The attitude and practice toward Physical examination scale" which is adapted from the work of Gharaibeh *et al.* (2018). The scale aims to assess the attitude of nurses in conducting PA and the factors that influence the use of PA. The final version of the attitude and practice toward Physical examination scale consists two parts:

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

Part II: It consists of 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). It has two dimensions to assess nurse use of PA in the clinical setting: one is the nurses' attitude and the second is the Barriers to use PA. Hence, the subscales are the factors that influence the nurses' attitude toward performing physical assessment as follows: Technical deficiencies of PA, Benefits, and usefulness of PA, Barriers to conduct PA, Cultural considerations.

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 study purpose and related details are disclosed to the participants, no physical, psychological or advanced consequences are anticipated as risk from participation in this study. The researcher informed the participants that their names and identities are not required. They were informed that their participation is completely voluntary so they could refuse to participate or withdraw from the study at any time without consequences.

The data collection procedures were carried out via firstly: Pilot study which was conducted to ensure the validity and reliability of the questionnaire on 33 nurses. The nurses who responded to the questionnaire were from different work experiences and that's to give an idea about the clarity and simplicity of the questionnaire to nursing personnel. The instrument's validity and reliability were retested on the samples of 33 nurses where they were not included in the study sample size. The tool was constructed on the Google Form online and shared with the accessible nurses through their Email after contacting the Nursing directors in the pre-mentioned hospitals and grant their permission verbally in June 2019. Secondly: The main data collection procedure that was carried out from July 2019 till the end of August 2019; three hundred (20% of the sample size) self-administrated questionnaires were distributed to the accessible sample in the five hospitals. With the cooperation of the nursing education department at each hospital, the researcher approaches the nurses in the settings explained the study purpose and benefit, moreover, they were encouraged to contact the researcher if they need any clarification. The copies of the questionnaire were distributed by the researcher with the consent and the nurses invited to fill the questionnaire if they agree to participate. The distribution of the questionnaire was done on different days and at different times with the help of the head nurses to ensure the participation of nurses from other shifts (afternoon and night shift). In additions, a self-administrated questionnaire constructed by using Google Form was sent to participants through the Emails and what's up app groups, unexpectedly, the poor response rate is noted. 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 to describe and explore the relationship between the study variables. The data were managed 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. Descriptive statistics for the demographic data such as: age and gender were express 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 instrument used in this study consists of items of Likert type responses ranged from 1-5 as follows: (1) totally disagree, (2) disagree, (3) neutral/neither agree nor disagree, (4) agree and (5) totally agree. 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  $4/5=0.80$ , which is the interval length and finding the first interval of the mean as follows: the lower bound is the minimum of the scale (which is 1), the upper bound is lower bound + the interval length (which is 0.80), the first interval is 1 to 1.80 and finally, finding the other intervals by adding the interval length to the bounds of the previous interval and the following table shows the interpretation rule

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

The researcher utilized inferential statistical procedures to find the correlation and differences among the demographic data and the dependent variables (attitude and Barrier). To answer the research questions 3, the Pearson correlation coefficient to test the magnitude of the relationship between the attitude toward performing PA and the barriers to using PA. The researcher attempted to test the significance of differences of the demographic variable means and dependent variables by 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

<b>Hospital</b>	<b>KFH</b>	<b>Ohud</b>	<b>Al Ansar</b>	<b>Al Meqat</b>	<b>MRH</b>	<b>TOTAL</b>
<b>bed capacity</b>	500	250	90	70	90	1000
<b>No. of accessible sample</b>	400	102	125	62	36	725

**35% to reach  
sample  
saturation**

140      36      44              22              13      253

After inputting data using SPSS the researcher retested the reliability of the instrument on the pilot sample.

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

Table 3 the value of alpha Cronbach of pilot sample

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

Table (1): alpha Cronbach coefficients of the instrument

We see from the table that all values of alpha Cronbach were greater than (0.70) so we can say that the instrument was reliable, which means that we can get the same answers if we apply the instrument on the same sample.

To achieve the construct validity of the instrument (for the pilot sample) the researcher calculated the Pearson correlation coefficient between responses on each item of each dimension and the total score for all subjects on all items, as shown in the following table:

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

<b>Attitude axes</b>		<b>Barriers axes</b>	
<b>Item</b>	<b>r- value</b>	<b>Item</b>	<b>r- value</b>
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)

Table (2): person correlation coefficient of the construct validity of the instrument.

We see from the table that all Pearson correlation coefficients were significant at level (0.01) so the instrument was valid, which means that all items of the instrument are measuring both attitude and barriers. The researcher found that there is no need for major changes in the instrument.

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

Table 5 Frequency distribution for the subjects regarding age variable

<b>variable</b>	<b>category</b>	<b>frequency</b>	<b>Percent (%)</b>
<b>Age</b>	20 -30	111	43.9
	31 -40	118	46.6
	41- above	24	9.5
	Total	253	100.0
<b>Gender</b>	Male	57	22.5
	Female	196	77.5
	Total	253	100.0
<b>Nationality</b>	Saudi	114	45.1
	Non-Saudi	139	54.9
	Total	253	100.0
<b>Years of experience</b>	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
<b>Educational level</b>	Diploma,	86	34.0
	BSN	159	62.8
	MSN and above	8	3.2
	Total	253	100.0
<b>Area of work</b>	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
<b>Total</b>		<b>253</b>	<b>100.0</b>

From the above table that nearly (47%) of the subjects' age in the sample was 31 to 40 years old, and nearly (44%) of them were aged with 20 to 30 years, and nearly(9%)of them were aged with 41 years and above, this indicated that nearly 91% of subjects were younger. Most of the subjects were females that nearly (77%) of the sample. For the nationality variable, we see that nearly (55%) of the sample were non-Saudis (n= 139) and only nearly (45%) were Saudis (n=114). Regarding to the years of experience variable, we see from the table that nearly (37%) of the subjects had an experience of 5 to less than 10 years, and nearly ( 32% ) of them had the experience of 1 to less than 5 years, and nearly ( 24% ) of them had an experience of more than 10 years, and nearly ( 8% ) of them had the experience of less than one year. The majority of the subject (n=159) were nurses who hold a bachelor's degree in nursing science (BSN) (63%) of the subjects regarding the Educational level variable. Where (34%) of them had a diploma educational level, and nearly (3%) of them had a higher educational level (Master's degree in nursing science or above). 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 nearly43% (n=109) of the subjects work in Adult Intensive care unit ( ICU), and nearly ( 32% ) of them work in Surgical ward, and nearly ( 21% ) of them work in Medical ward, and ( 4% ) of them work in One daycare (ODC) unit.

The nurses were asked about their attitude toward performing physical assessment by responding to the first 12 items of the scale. We found that the total average of all responses on all items of the attitude's subscale was (3.30) with S.D (0.46), which means by looking to the interpretation rule, it is approaching the neutral agreement (2.61-3.40). Interestingly, the frequency distribution of responses for the total average of attitude, showed that there is nearly 9% of the subjects disagreed corresponding to nearly 48% of the subjects who were agreed. This means that the subjects had a positive attitude toward using the physical assessment. the table below shows the means and standard deviations of all the items of attitude and their rank:

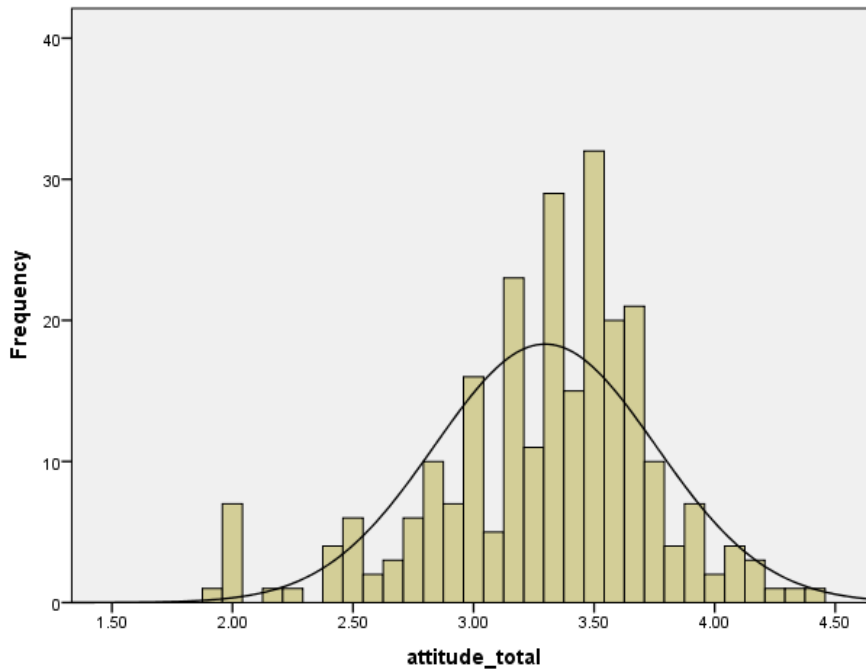
Table 6 The means and standard deviations for items of attitudes and subscales:

<b>Item number</b>	<b>Mean</b>	<b>Standard deviation</b>	<b>rank</b>
<b>Technical deficiencies in PE</b>	<b>2.92</b>	<b>0.40</b>	
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
<b>Benefits and usefulness of PE</b>	<b>3.83</b>	<b>.85</b>	
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
<b>All items</b>	<b>3.30</b>	<b>0.46</b>	

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.



Regarding the subscales of the attitude, we see from the above table that the total average of all responses on the items of the Technical deficiencies in PA was (2.92) with S.D (0.40). Since the mean value is in the middle of the neutral interval of agreement (2.81 to 3.40), we used the frequency distribution of responses for the Technical deficiencies in PA, there is nearly 16% of the subjects disagreed corresponding to nearly 11% of the subjects who were agreed.

The Benefits and usefulness of PA was (3.83) with S.D (0.85), which fall in the agreement interval (3.41 to 4.20), so the subjects were agreed about the items. This means that they had a positive attitude toward the benefits and usefulness of PA.

Turning to the item's ranking, we see from the table above (table.2) there are 7 items fall into the agreement interval (3.41 – 4.20). the first rank item was the item (10) " Physical assessment is an integral part of nursing care for the patient " with a mean (4.06 ) and S.D (1.03 ), which means that the subjects were agreed that the Physical assessment is an integral part of nursing care for the patient.

In the second rank, item (9) " Physical assessment is important to establish rapport and trusting relationship with the patient " with a mean (4.02 ) and S.D (1.01 ), which means that the subjects were agreed that Physical assessment is important to establish rapport and trusting relationship with the patient.

In the 3<sup>rd</sup> rank, item (3) " Conducting Physical assessment is NOT helpful because it is NOT specific test (e.g.: able to identify NORMAL findings when there is no problem, demonstrate NORMALITY finding when there is no disorder). " with a

mean (3.98) and S.D (1.14), which means that the subjects were agreed that Conducting Physical assessment is NOT helpful because it is NOT a specific test.

Remarkably, the items (item2 and item4) discussed that performing the PA can be a source of risk for either the nurse or the patient and may produce complications got the low mean (2.10, 2.09) S.D (1.20 and 1.19), which means that the subjects disagreed that the Physical assessment can be a source of risk, e.g. the Physical assessment can't be a source of risk to the nurse or to some patients and may produce complications.

In the last rank, item (1) " There is no need to conduct Physical assessment if the patient will undergo diagnostic examination such as CT or MRI. " with a mean (1.89) and S.D (1.11), which means that the subjects disagreed that There is no need to conduct Physical assessment if the patient will undergo diagnostic examination such as CT or MRI, e.g. "There is a need to conduct Physical assessment if the patient will undergo diagnostic examination such as CT or MRI".

We found that the total average of all responses on all items of the barriers' subscales was (3.04) with S.D (0.43), which means by looking to the interpretation rule, it falls in the middle of agreement interval (2.61-3.40), which means that the subjects in the sample were neutral on all items of barriers. 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. This means that the subjects in the sample were neural about the barriers that hinder or interfere with the nurses' practice of PA.

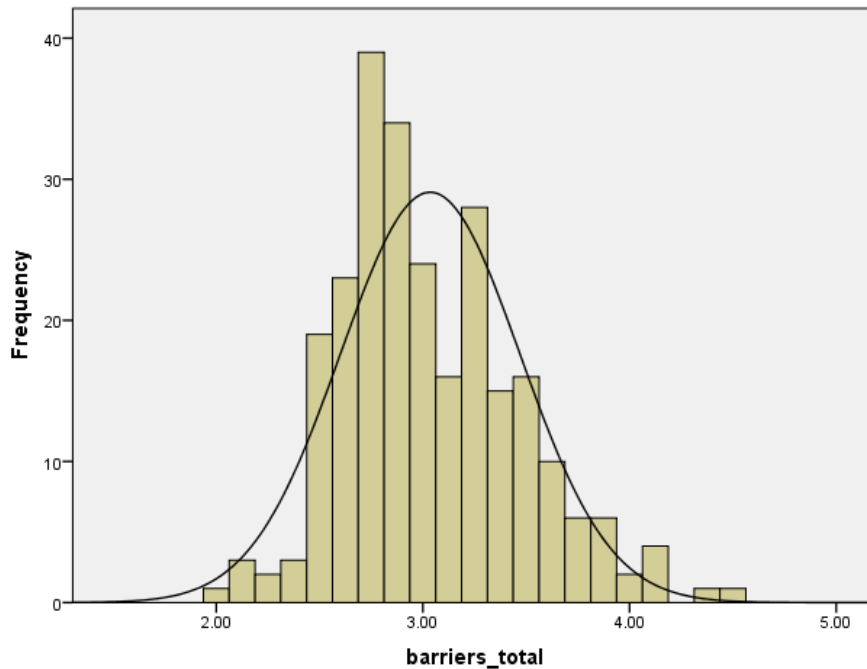
Table 7 The means and standard deviations for the barriers' items:

<b>Item number</b>	<b>Mean</b>	<b>Standard deviation</b>	<b>rank</b>
<b>Barriers to conduct PA</b>			
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
<b>Cultural considerations</b>	<b>2.55</b>	<b>1.06</b>	
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
<b>Cultural considerations</b>	<b>2.55</b>	<b>1.06</b>	
<b>All items</b>	<b>3.04</b>	<b>0.43</b>	

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:



As revealed, the subjects were neutral in their responses to the barriers' items. So, in which items of barriers most of the sample had agreed about. First, the total average of responses on all items of Barriers to conduct PA 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), which show that the subjects disagreed about items of the Cultural considerations. Therefore, the subjects in the study see that there is no barrier to conduct the physical assessment in practice concerning the culture.

In regarding the items' ranking, we see that item (15) " I do NOT do physical assessment often because my physical assessment skills had become poor " came at the first rank with a mean (4.09 ) and S.D (1.02 ), which means that the subjects were agreed that they do NOT do physical assessment often because their physical assessment skills had become poor. e.g. "their physical assessment skills had not become poor"

In the second rank, item ( 14 ) " I do NOT do physical assessment often because I am NOT skillful or qualified " with a mean (4.08 ) and S.D (1.05 ), which means that the subjects were agreed that they do NOT do physical assessment often because they are NOT skillful or qualified. i.e: they were skillful and qualified.

In the 3<sup>rd</sup> rank, item (13) " I do NOT do physical assessment because most of the nurses do NOT do physical assessment anyways " with a mean (4.06 ) and S.D (1.05 ), which means that the subjects were agreed that they do NOT do physical

assessment because most of the nurses do NOT do physical assessment anyways. i.e: the nurses are doing physical assessment anyways

In contrast, the items 17 and 16 (" Many of the physical assessment skills are never or rarely used in practice" and Many of the physical assessment skills I learned seem unpractical ") are at the bottom ranking with mean= 2.17, S.D= 1.19, and mean=2.14, S.D 1.10, which means that the subjects disagreed about the practicality of the physical assessment skills, e.g. Many of the physical assessment skills are used in practice.

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), which means that they skip Physical assessment if the patient is from the opposite gender, i.e: they don't skip Physical assessment if the patient is from the opposite gender.

The relationship between the nurses' attitude and the barriers to physical assessment is investigated by using 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:

<b>attitude barriers</b>	<b>All items</b>	<b>Technical deficiencies in PE</b>	<b>Benefits and usefulness of PE</b>
<b>All items</b>	.140*	.148*	.084
<b>Barriers to conduct PE</b>	.078	-.027	.119
<b>Cultural considerations</b>	.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 ( $r=0.140$ ,  $P=0.05$ ). This means that the subjects had a positive attitude toward the physical assessment practice as they agreed about not existing barriers effect practicing PA.

Additionally, there is a significant correlation between Technical deficiencies in attitude subscale and all items of barriers, which means that the nurses had a positive attitude as they think they are skillful and qualified in performing PA ( $r=0.148$ ,  $P=0.05$ ). Important to mention that there is a significant positive association between Technical deficiencies and the Cultural considerations barrier ( $r=0.178$ ,  $P=0.05$  two-tailed) e.g. there are no cultural considerations barriers that affect their practice of PA.

In this study, we aim to look for the differences in the demographic characteristics (age, gender, nationality, experience, and educational level and work area) and their agreement on the scale. To answer this research question, we connected the demographic variables of the subject with total averages of responses on the items of both attitude and barriers, by using inferential statistical procedures: t-test for independent samples, one-way analysis of variance ( F-test for ANOVA) and LSD ( least significant difference) as a post hoc test.

The differences of the mean in the attitude between the nurses' gender and nationality are indicate that no significant differences between means of attitude toward the physical assessment practice regarding to the variables: gender ( $t=0.218$ ,  $P=0.827$ ) and nationality ( $t=-1.009$ ,  $P=0.314$ ). Which mean both males and females, have the same attitude toward the physical assessment practice, also both Saudi and non-Saudi, have the same attitude toward the physical assessment practice, also staff nurse and head nurse have the same attitude toward the physical assessment.

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 ( $t=6.432$ ,  $P=0.0001$ ) Which means that the male nurses ( $M=3.24$ ) agreed about barriers more than and significantly the females, also the Saudis ( $M=3.21$ ) agreed about barriers or interfere with the nurse's practice of PA more than and significantly the non-Saudis, also the head nurses ( $M=3.28$ ) agreed about barriers more than and significantly the staff nurses.

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

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

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

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

B. For the demographic data that comes in several groups like age, experience, educational level, and work area, we computed the one-way analysis of variance

(ANOVA) test for each variable to determine the differences of the mean among the subject regarding the attitude and barriers items.

Regarding the age variable, there were no significant differences among means of responses for the attitude, which means that the subjects in all age groups were homogeneous about their responses on the attitude variable. On the other hand, there were significant differences among means of responses of subjects of barriers ( $F=4.954$ ,  $P=0.008$ ). this indicates that the subjects in all the age groups were not homogeneous about their responses on the barrier's variable. The results are shown in the table below:

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

<b>Dimensions</b>	<b>Source of variance</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F-value</b>	<b>Sig.</b>
<b>Attitude</b>	Between groups	0.120	2	0.060	0.282	0.755
	Within groups	53.008	250	0.212		
<b>barriers</b>	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) which is one of the post hoc tests is used. 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:

<b>Age</b>	<b>Means</b>	<b>20 - 30</b>	<b>31 - 40</b>	<b>41 - above</b>
<b>20 - 30</b>	2.9673			
<b>31 - 40</b>	3.1239	*		*
<b>41 - above</b>	2.9115			

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

1. The differences among means of attitude and barriers regarding experience variable. We found that there were no significant differences among means of responses for each of attitude ( $F=0.477$ ,  $P=0.698$ ) and barriers ( $F=1.560$ ,  $P=0.200$ ) regarding the experience variable. This means that the subjects in each work experience group were homogeneous about their responses on the attitude and barriers variables.

Table (10): ANOVA for difference among averages responses on Attitude and barriers regarding experience variable

<b>Dimensions</b>	<b>Source of variance</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F-value</b>	<b>Sig.</b>
<b>attitude</b>	Between groups	.304	3	0.101	0.477	0.698
	Within groups	52.823	249	0.212		
<b>barriers</b>	Between groups	.875	3	0.292	1.560	0.200
	Within groups	46.548	249	0.187		

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

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

<b>Dimensions</b>	<b>Source of variance</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F-value</b>	<b>Sig.</b>
<b>attitude</b>	Between groups	1.885	2	0.942	4.597	0.011
	Within groups	51.242	250	0.205		
<b>barriers</b>	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 ( $F=0.0001$ ,  $P=0.05$ ). we used the post hoc test to examine which group had the highest mean. In the attitude variable, the subjects who have a higher educational level are the nurses who hold MSN and above ( $M=3.68$ ,  $P=0.05$ ) had a positive attitude (Tab.12) toward the physical assessment practice, more than and significantly of the subjects who had lower educational levels groups: (Diploma) and (BSN). Moreover, the subjects who have higher educational level seems more likely to acknowledge the barriers hinder the use of PA ( $M=3.50$ ,  $P=0.05$ ) more than the nurses who have either diploma or Bachelor's degree in nursing. At the same time, nurses who had a diploma in nursing ( $M=3.13$ ) has a higher average of responses on the barrier's items than the nurses with Bachelor's degree in nursing.

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

<b>Educational level</b>	<b>Means</b>	<b>Diploma</b>	<b>BSN</b>	<b>MSN and above</b>
<b>Diploma</b>	3.21			
<b>BSN</b>	3.32			
<b>MSN and above</b>	3.68	*	*	

<b>Educational level</b>	<b>Means</b>	<b>Diploma</b>	<b>BSN</b>	<b>MSN and above</b>
<b>Diploma</b>	3.13		*	
<b>BSN</b>	2.96			
<b>MSN and above</b>	3.50	*	*	

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

- The differences among means of attitude and barriers regarding work area variable.

Although the subjects of this study are selected from different hospital units, 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. Which means that the subjects in all work area, were homogeneous about their responses on the attitude and barriers variables.

Table 14 ANOVA for difference among averages responses on Attitude and barriers regarding work area variable

<b>Dimensions</b>	<b>Source of variance</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F-value</b>	<b>Sig.</b>
<b>attitude</b>	Between groups	0.998	3	0.333	1.589	0.193
	Within groups	52.129	249	0.209		
<b>barriers</b>	Between groups	1.104	3	0.368	1.979	0.118
	Within groups	46.319	249	0.186		

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

## 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 and only two-third of these skills are practiced (Douglas, Windsor, & Lewis, 2015; Egilsdottir, Byermoen, Moen, & Eide, 2019; Zambas, Smythe, & Koziol-Mclain, 2015). Knowing that the PA is part of the overall assessment to perform as the first step of the nursing process, there is a consensus about its contribution to the patient outcome and on improving the quality of nursing care.

As well, the participants identified how PA makes the decision of care or treatment facilitated by limiting the unnecessary diagnostic test. 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).

Practicing the autonomy allow the nurse to gain a confidence and master the skills of accurately assessing the patient, McElhanney (2010) suggest that nurse confidence in their competences of PA is vital because it could empower them or lower their willingness to use their skills. At the same time, when physically assessing the patient is not given an importance by the nurses them self or the organization, whatever skills nurses have will lose it. Osborn *et al* (2015) argued that less opportunity to utilize PA skills make the nurse became less proficient and then gradually they lose confidence in their ability, in revers the more chances to use PA the more they become confident (Osborne, Douglas, Reid, Jones, & Gardner, 2015; Secrest, Norwood, & Dumont, 2005).

This study revealed that the participants' responses about the factors hindered performing PA in clinical settings fell in the middle. Several studies reported in that, lack of confidence, reliance on others and technology, ward culture and lack of time and interruption are factors interfere with nurses use of PA (Alamri & Almazan, 2018; Douglas *et al.*, 2014; Osborne *et al.*, 2015), this result suggest that those factors are may lay an eye on what it could be the silent barriers to use PA for study samples.

Troubled confidence of nurses and reliance on others and technology in performing PA also may imply the neutral agreement on the technical deficiency subscale. In study of C. Douglas *et al* (2014) they 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. In fact by looking the reality, the nurses learned how to collect data through assessing patient to come up with plan and implement appropriate care within

their scope of practice, being under the pressure of crossing the professional boundaries, on other word interfering with physicians job, is leading them to be hesitant to do so. We could assume that if some of these nurses were asked directly about if wither their assessment finding were taken seriously by the physician, they may answer no because the physician doubt their skills in performing PA.

Being confident in own practice motivate the nurse with previously acquired knowledge and skills to carry on her role effectively and leads to master these skills over the years which is revealed by the participant agreement that their competence in performing PA is not a barrier. 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.

In real practice, the nurses relying on the technology and equipment to carry on and validate their assessment findings which in return may affect the nurses' ability to use their sense and detect patient deterioration (Douglas et al., 2014) thus this will challenge the nursing care more and more which required reconsideration to the use of this equipment on the practice (Alamri & Almazan, 2018; Edmunds et al., 2010; Raleigh & Allan, 2017).

Another factor may hinder the use of PA in daily practice is time limitation in inpatient words. It was identified in the literature that nurses seem too busy, cannot have enough time to do comprehensive assessment due to workload in caring for their patient or due to organizational work e.g. documentation (Douglas *et al.*, 2014). Although, nurses can do focus assessment regarding new arise patient problem as needed. For example, assessing the respiratory function after inserting endotracheal tube by auscultation, or assessing the suspected mass in the abdomen by palpation, then initiate independent plan of care.

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).

Interestingly, the cultural considerations were not identified as barriers to perform PA in the context of Saudi Arabia where Islamic culture determined and controlled the communication and relationship between the gender, the participants find assessing the patient from opposite gender for example unchallenging. 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).

Regarding sample characteristic differences in the perceived barriers, the result showed that: first, there were differences in gender and nationality. The male nurses reported perceived barriers more than the female nurses, also the non-Saudi nurses reported perceived barriers more than the Saudi, interestingly one-half of the study participants are non-Saudi nurses, most of them were female. It indicates that the female and the expatriate nurses, in particular, experience more difficulties with performing PA which may shape by their educational background regarding PA teaching in their country (Douglas *et al.*, 2014).

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). The majority of study participants are bachelor's degree holders. Notably, beside their positive attitude they perceive barriers to conduct PA. 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). Thus, a great level of anxiety stated by those nurses may basically pertain to the theory-practice gap. 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; ten Hoeve *et al.*, 2018). Therefore, pre-graduation preparation and continuous educational programs enhance transition also close the theory-practice gap along with organizational support.

The result of 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. This may point out different perceptions of the different generations compose the health care workforce toward PA. 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. However, the nursing leader must understand how to blend the generations and interprofessional personnel which may help to resolve and elevate obstacles at the same time led to better staff satisfaction and improve patient outcomes (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. That is justified by experienced senior nurses are having less contact with the patients and so less use of PA due to filling managerial positions (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.

There are significant differences between the participants' age, gender, and nationality on the perception of barriers. Also, the participants with higher educational levels show more acknowledgment of the presence of barriers. While surprisingly, no significant difference was found in the years of experience which means it did not influence the study participants' perception of PA. Alongside other professions in healthcare, nurses recognized the quality of care patients will receive if physical assessment practices are put in place in order to provide quality care.

### **Limitations and Recommendations of Study**

This study do 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.

In the end, it is important that the nursing faculties who teach nursing assessment direct the attention to revise the physical assessment content, focusing on students' acquisition of skills used frequently in practice (Birks, Cant, James, Chung, & Davis, 2013). Also, reinforcing the acquisition of these skills through planned consistent exposure to the clinical setting.

Empowering the nurses to overcome the barriers to implement physical assessment on practice ensures numerous benefits to patient care and safety.

Conducting in-service continuous education and simulation sessions focusing on enhancing the physical assessment skills and reinforcing the role of the nurse in performing PA must be the strategic goal of nursing education in hospitals.

In addition to considering these barriers "confidence, time limitation and reliance on other and technology" as a modifiable one, the administrators and professional development departments should develop policies and provide political support to facilitate nursing assessment practices, looking to improve the quality-of-care render and decrease the undetected clinical deteriorations.

Unfortunately, this quantitative study cannot elaborate the nurses' perspective on performing PA, the challenges of the nursing practice environment could be understood through a qualitative study. Also, the instrument used in this study studied the barriers in general, further research needed for investigating other barriers more specifically, focus on the understanding the other factors within the hospital or unit environment such as leadership, organization policies and organizational culture may help to determine which support is needed to improve the implementation of PA and finally, this study participants are recruited from a different nationality, so, further researches 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 that may contribute to the performing PA.

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

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