The purpose of this systematic review was to explore nurses’ and physicians’ perceptions of nurse-physician collaboration and the factors that influence their perceptions. Overall, nurses and physicians held different perceptions of nurse-physician collaboration. Shared decision making, teamwork, and communication were reoccurring themes in reports of perceptions about nurse-physician collaboration. These findings have implications for more interprofessional educational courses and more intervention studies that focus on ways to improve nurse-physician collaboration.

The Institute of Medicine recommends that healthcare professionals improve the quality of care through increased trust, respectful communication, and good working relationships. Numerous medical errors have been linked to ineffective communication and a lack of coordination among healthcare professionals. Conversely, positive nurse-physician collaboration and a professional practice environment have been linked to quality of care. Effective nurse-physician collaboration is essential to quality patient outcomes, such as shorter length of stay and fewer hospital-acquired infections. Collaboration has been found to vary across hospital units, and nurses and physicians have defined collaboration differently. Furthermore, on some hospital units, nurses and physicians have shared varying opinions regarding the degree of nurse-physician collaboration. For the purpose of this article, nurse-physician collaboration is defined as “the joint decision making process in which nurses and physicians share objectives and the responsibility of results.”

To better understand how communication techniques can be modified to promote effective collaboration, a systematic review to evaluate nurses’ and physicians’ perceptions of RN-MD collaboration is needed. Perceptions influence behaviors; thus, a clear understanding of nurses’ and physicians’ perceptions of collaboration will guide the development of effective interventions to improve nurse-physician collaboration. Therefore, the purposes of this review are to examine nurses’ and physicians’ perceptions of nurse-physician collaboration in the literature and identify how these perceptions might influence collaborative interactions between nurses and physicians. The specific questions that guided this review were the following:

1. What are nurses’ and physicians’ perceptions of nurse-physician collaboration?
2. What factors influence nurses’ and physicians’ perceptions of nurse-physician collaboration?

Historical Versus Contemporary Nurse-Physician Collaborations

Collaborative relationships are characterized by mutual trust, respect, and power. Historically, nurse-physician interactions were characterized by nurse subservience and physician dominance. Physicians portrayed a paternal and directive role, whereas nurses...
were expected to acquiesce to physicians and focus on patient care. Today, however, schools of nursing emphasize that nurses and physicians should collaborate as colleagues versus the traditional subservient interactions. Because of the complexity of patient care in this era, contemporary nurse-physician collaboration requires that nurses and physicians coordinate patient care to promote quality and safety. Nurses and physicians make up the largest workforce segment of the healthcare field, and the coordination of care is becoming increasingly important as healthcare regulatory agencies require providers to decrease costs while providing safe quality care. Thus, effective nurse-physician collaboration is essential to the provision of quality care.

Methods

Search Strategy

A search in PubMed, CINAHL, and PsychInfo was conducted in February 2016 to identify empirical studies of nurses’ and physicians’ perceptions of nurse-physician collaboration. Search terms included collaboration, relationships, teamwork, perceptions, opinions, beliefs, registered nurse, physician, and MD. MeSH terms were used in CINAHL, and the following search streams were identified: ((TI Attitud OR belief OR believ* OR perception OR perceiv* OR opinion*) OR (AB Attitud* OR belief OR believ* OR perception OR perceiv* OR opinion*)) AND ((MH “Collaboration”) OR (MH “Cooperative Behavior”) OR collab* OR team* OR relat*) AND (MH “Nurse-Physician Relations”). Inclusion criteria included peer-reviewed, English-text journal articles published from 2000 to 2015. Quantitative and qualitative studies that explicitly analyzed nurses, physicians, and/or resident physicians’ perceptions of nurse-physician collaboration were included in this review. A hand search was conducted from the reference list of studies that met the inclusion criteria. Articles were excluded if they examined nursing or medical students’ perceptions of nurse-physician collaboration.

Study Selection

Descriptive studies were sought to identify nurses’ and physicians’ perceptions of nurse-physician collaboration. The titles and abstracts were screened to identify studies that met the inclusion criteria. Next, full-text articles were reviewed, and studies were selected based on the inclusion and exclusion criteria (see Figure, Supplemental Digital Content 1, http://links.lww.com/JONA/A523).

Study Quality Assessment

For each study included in the review, the quality, reliability, appropriateness of the measures used, and study methods were assessed. Each instrument was evaluated to determine whether it measured what it purported to measure. Instruments that had a Cronbach’s α of at least .70 were deemed valid and reliable. Articles were not excluded from this systematic review based on the quality of the study (eg, poor quality) because this was the purpose for conducting the systematic review.

Data Extraction and Synthesis

Data tables were constructed using the Cochrane Public Health Group extraction tool, and the following data were abstracted: setting, sample, study design, appropriate measurement, and results. Results were synthesized by organizing the data in a table, and simple vote counting was used to identify the main findings and similar themes across studies.

Results

Sample, Setting, and Study Design

Fourteen quantitative studies and 2 qualitative studies were included in this review. Eight of the 16 studies used a descriptive design, and most studies used a convenience sample (n = 13). The studies were conducted on various types of clinical units (ie, operating room, emergency department, intensive care, neonatal intensive care, obstetrics gynecology, oncology units, and medical-surgical units). Ten studies were conducted in the United States, and 1 study each was conducted in Norway, Canada, Turkey, Mexico, Israel, and Italy.

Instruments

The Jefferson Scale of Attitudes toward Physician-Nurse Collaboration was used in 6 of 14 studies. This scale consists of 15 items that measure nurses’ and physicians’ perceptions of nurse-physician collaboration on a 4-point Likert scale. A score of 4 indicates “strongly agree,” and a score of 1 indicates “strongly disagree.” The Jefferson Scale has 4 domains: shared education and collaborative relationships, caring as opposed to curing, nurse’s autonomy, and physician’s authority. Across the studies, scores ranged from 15 to 60, with higher scores indicating positive perceptions of nurse-physician collaboration. The Cronbach’s α for the Jefferson Scale ranged from .70 to .93. The other 8 studies used a variety of instruments (n = 8).

Nurses’ and Physicians’ Perceptions of Collaboration

In 6 of the 16 studies, nurses had more positive perceptions of nurse-physician collaboration than did physicians. In these 6 studies, nurses reported higher mean collaboration scores than physicians (see Table, Supplemental Digital Content 2,
In 1 study, nurses and resident physicians reported varied perceptions (eg, positive and negative perceptions) of nurse-physician collaboration. In this qualitative study analyzing the perceptions of collaboration between female nurses (n = 28) and female residents (n = 23), Wear and Keck-McNulty found that nurses practicing on surgical units and in emergency departments had positive perceptions of nurse-resident collaboration. Nurses on these units described collaboration with residents as “less intimidating” and stated that female residents were “easy to get along with,” whereas nurses on OB-GYN units reported negative perceptions of nurse-resident collaboration. Nurses on the OB-GYN units reported that female residents did not value their knowledge and experience. One nurse reported that female residents did not respect them as much as male residents do.

For female nurses, occupation was secondary to gender. In other words, gender was an essential link between female nurses and female residents. On the contrary, female residents perceived that female nurses respected and collaborated better with male residents and physicians. For residents, occupation/occupational role were important links to nurse-resident collaborations (eg, important predictor of nurse-resident collaborations). Wear and Keck-McNulty attributed this to the authoritative role that residents have. Residents may perceive that they have more authority than nurses, and residents believed that this influenced their collaboration with nurses regardless of the nurses’ gender.

Discussion

Main Findings

The literature on nurses’ and physicians’ perceptions of nurse-physician collaboration shows that nurses and physicians reported differing opinions regarding what constitutes effective collaboration. In some studies, nurses were more satisfied with their collaborative interactions with physicians and placed a higher value on nurse-physician collaboration than physicians. This finding is consistent with another systematic review conducted by Tang et al, who reported that nurses had a more positive attitude toward collaboration than physicians. In other studies, however, physicians were more satisfied with nurse-physician collaboration and believed that they had good collaborative interactions with nurses (see Table 1 for a summarized version; see Document, Supplemental Digital Content 2, http://links.lww.com/JONA/A520, for full findings). The culture of the individual clinical units may have influenced nurses and physicians’ perceptions of nurse-physician collaboration. Gittell et al claim that “communication patterns are deeply embedded in professional identities and organizational cultures, and not easily changed.” One factor that may influence the culture of a unit is the individual beliefs of nurses and physicians regarding effective collaboration. One’s mindset potentially influences behavior, which may significantly affect the collaborative behaviors nurses and physicians display. The frequency with which nurses’ and physicians interact and collaborate with each other may also affect the culture of the unit. Some units require frequent nurse-physician communication and collaboration (eg, intensive care units and emergency departments), and nurses and physicians on these units generally interact more frequently because of the complexity of patient care. Nurses and physicians on these units may perceive collaboration differently than nurses and physicians on other units who do not interact as frequently (eg, units that have less complex patients or increased time constraints).

Broader Context of the Findings

Shared decision making, teamwork, and communication were reoccurring themes in reports of perceptions about nurse-physician collaboration. However, there were various definitions of how the concept was defined. Similarly, Manojlovich et al reported that “physicians and nurses vary on their perspectives of what constitutes good communication, which makes it difficult to build a consensus between groups.” Nurses and physicians need a standard, operational definition of collaboration before they can effectively implement it and work together as a team. This may explain why nurses and physicians have differing opinions regarding what constitutes effective collaboration. A clear understanding of the concept of collaboration is the 1st step in implementing high-quality nurse-physician collaboration. Moreover, a standard definition of collaboration will help nurses and physicians operationalize it consistently.

In general, nurses desired to work collaboratively with physicians and coordinate patient care. Nurses wanted equity in the decision-making process and to assist the physician in developing the patient’s plan of care. Similarly, nurses desired a 2-way knowledge exchange with physicians and desired that their input about patient concerns be considered. Nurses appreciated the ability to openly share their concerns and suggestions regarding the patients’ plan of care. Overall, nurses valued open and clear communication, as well as active listening from physicians.
### Table 1. Summary: Nurses and Physicians’ Perceptions of RN-MD Collaborations

<table>
<thead>
<tr>
<th>Authors</th>
<th>Study Design</th>
<th>Sample</th>
<th>Instrument</th>
<th>Main Findings: RN-MD Perceptions of Collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lee et al,21 2014</td>
<td>Descriptive</td>
<td>Convenience sample RNs (n = 100) MDs (n = 150)</td>
<td>Relational coordination</td>
<td>RNs reported slightly lower perceptions of RN-MD collaborations than MDs. Center A had lower mean scores of RN-MD collaboration than center B.</td>
</tr>
<tr>
<td>Wear and Keck-McNulty,32 2004</td>
<td>Qualitative</td>
<td>Convenience sample Female RNs (n = 28) Female residents (n = 23)</td>
<td>Interviews</td>
<td>Female RNs reported mixed perceptions of RN-MD collaboration. Female residents perceived that female RNs respected and collaborated better with male residents and MDs. Results were not statistically significant. RNs reported higher perceptions of RN-MD collaboration than MDs.</td>
</tr>
<tr>
<td>Thomson,24 2007</td>
<td>Descriptive</td>
<td>Convenience sample RNs (n = 65) MDs (n = 37)</td>
<td>Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration</td>
<td>RNs reported higher perceptions of RN-MD collaboration than MDs.</td>
</tr>
<tr>
<td>Yildirim et al,22 2005</td>
<td>Descriptive</td>
<td>Convenience sample RNs (n = 722) MDs (n = 853)</td>
<td>Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration</td>
<td>Residents reported higher perceptions of RN-MD collaboration than MDs.</td>
</tr>
<tr>
<td>Hojat et al,19 2003</td>
<td>Descriptive</td>
<td>Convenience sample Total RNs (n = 1676) Total MDs (n = 850)</td>
<td>Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration</td>
<td>Regardless of the country, RNs reported higher perceptions of RN-MD collaboration than MDs.</td>
</tr>
<tr>
<td>Hojat  et al,18 2001</td>
<td>Descriptive</td>
<td>Convenience sample Total RNs (n = 372) Total MDs (n = 267)</td>
<td>Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration</td>
<td>Regardless of the country, RNs reported higher perceptions of RN-MD collaboration than MDs.</td>
</tr>
<tr>
<td>Miller,27 2001</td>
<td>Case study; descriptive</td>
<td>Convenience sample RNs (n = 35) MDs (n = 45)</td>
<td>ICU nurse-physician questionnaire</td>
<td>RNs reported lower perceptions of RN-MD collaboration than MDs. More experienced RNs perceived better collaboration with MDs than less experienced RNs. Specialty MDs reported higher perceptions of RN-MD collaboration than primary MDs.</td>
</tr>
<tr>
<td>Sterchi,23 2007</td>
<td>Descriptive</td>
<td>Convenience sample RNs (n = 72) MDs (n = 65)</td>
<td>Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration</td>
<td>RNs reported higher perceptions of RN-MD collaboration than MDs.</td>
</tr>
<tr>
<td>Thomas et al,30 2003</td>
<td>Correlational</td>
<td>Convenience sample RNs (n = 230) MDs (n = 90)</td>
<td>Intensive Care Unit Management Attitudes Questionnaire</td>
<td>RNs reported higher perceptions of RN-MD collaboration than MDs.</td>
</tr>
<tr>
<td>Carney et al,26 2010</td>
<td>Descriptive</td>
<td>Convenience sample RNs (n = 378) MDs (n = 312)</td>
<td>Safety Attitudes Questionnaire</td>
<td>RNs reported lower perceptions of RN-MD collaboration than MDs.</td>
</tr>
<tr>
<td>Lancaster et al,34 2015</td>
<td>Qualitative</td>
<td>Convenience sample RNs (n = 13) MDs (n = 12)</td>
<td>Interviews</td>
<td>MDs view themselves as the primary decision maker. Some RNs reported hierarchical, subservient relationships with MDs. Communication: RNs and MDs reported that how you say something is equally important to what you say. Teamwork/collaboration: RNs and MDs stated that interdisciplinary meetings encourage communication.</td>
</tr>
<tr>
<td>McGaffrey et al,25 2011</td>
<td>Quasi-experimental</td>
<td>All RNs and residents participated in the study. RNs (n = 68) Residents (n = 47)</td>
<td>Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration</td>
<td>RNs reported slightly higher perceptions of RN-MD collaboration than MDs.</td>
</tr>
</tbody>
</table>

(continues)
On the other hand, physicians considered themselves as the primary decision makers and believed that they were ultimately responsible for the patients’ care. Some physicians believed that effective collaboration occurred when nurses were readily available to assist them or answer questions regarding their patients. In some instances, physicians perceived that they had effective collaboration, particularly if they deemed that they were the controlling partner in nurse-physician collaborations. In other studies, physicians reported that nursing input regarding patient care was extremely valuable. Overall, nurses and physicians perceived collaboration differently, which may explain the variation in results and their perceptions regarding what constitutes effective collaboration.

Measures and Methods

The studies used different instruments to measure perceptions of nurse-physician collaboration. This finding is similar to another systematic review conducted by Tang et al. Overall, the psychometric properties of the instruments were well established and documented; however, most instruments only measure certain aspects of collaboration in certain settings. Tang et al recommended developing a comprehensive instrument to examine perceptions in a greater depth and a broader scope.

Implications for Practice and Policy

Nurses and physicians have different educational curricula: nurses are trained to focus holistically on health and wellness; physicians are trained to diagnose and cure medical conditions. Nurses and physicians are educated separately, yet nurses and physicians are expected to know how to collaborate effectively regarding patient care. Medical schools and nursing schools should require medical and nursing students to take more classes together (eg, interprofessional education), thus allowing learners to interact and collaborate with each other before they work in a setting where they are expected to collaborate. Likewise, hospital administrators should require hospital-based interprofessional educational/practice programs for both nurses and physicians. These courses should be designed so that nurses and physicians would learn with and from each other.

Suggestions for Future Research

First, a standard definition of collaboration should be developed and used across studies. In other words, a standard definition of collaboration should be used and should be clearly defined so that nurses and physicians understand what it means and how to implement. Second, a standard, reliable, and valid
instrument should be used to analyze nurse-physician collaboration. Third, more studies are needed to assess perceptions of nurse-physician collaboration. Fourth, intervention studies should be conducted to implement evidence-based strategies and implementation science projects to promote collaboration. For example, hospitals could implement a nurse-physician collaboration workshop with nurses and physicians working on case studies together and discussing strategies to improve collaboration. This would promote practicing shared decision making and problem-solving communication. To date, most nurse-physician collaboration studies are descriptive in nature. More experimental studies are needed to better understand nurse-physician collaboration.

**Limitations and Strengths of Past Research**

The preponderance of studies in this review were descriptive (n = 8). Likewise, some of the studies were conducted in 1 hospital and on 1 clinical unit. Therefore, the applicability of the findings to other settings (generalizability) must be considered when considering the results. Despite the effort to include all the appropriate research, it is possible that the search strategy may have inadvertently excluded relevant articles. The methodological approach of the studies may have introduced selection bias, which would have been a threat to internal validity. The nurses and physicians who worked on the clinical units were invited to participate in the study and voluntarily agreed to complete the surveys. Subjects who responded to the surveys desired to participate in the study. Randomization of participants would therefore increase the internal validity of the study. Threats to external validity included the use of a convenience sample. Likewise, some studies had a small sample size; therefore, generalizability of the results to other types of clinical units and settings may not be applicable. A strength of this systematic review is that it included studies conducted on a variety of clinical units, which allows readers to examine nurse-physician collaboration across different practice settings.

**Conclusions**

In conclusion, the results in this systematic review were similar to other studies and provide further support. Overall, nurses and physicians reported varied perceptions of effective collaboration. A standard definition of collaboration should be developed, and a validated, unbounded instrument should be used to measure nurse-physician collaborations. Nursing and medical schools should require interprofessional educational courses between medical and nursing students. Likewise, hospital administrators should provide continuing interprofessional education and collaboration experiences for all interdisciplinary team members. The differences in how nurses and physicians define collaboration may explain why nurses’ and physicians’ perceptions varied. The main factors associated with nurses’ and physicians’ perceptions of collaboration were examined. Various instruments were used to measure nurses’ and physicians’ perceptions of nurse-physician collaborations, and physicians reported higher mean scores of collaboration compared with nurses. There are a number of descriptive nurse-physician studies in the literature. More intervention studies that focus on ways to improve nurse-physician collaboration and less descriptive studies are warranted.

**References**


