Emerging practices in onboarding programs for PAs: Strategies for onboarding

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ABSTRACT

Objective: This is the final article in a series that examines the role of onboarding programs for new physician assistants (PAs) and NPs. On-the-job learning is highly relevant for this workforce. Here we examine the strategies organizations use to impart information and skills in onboarding programs.

Methods: In 2018, we interviewed 13 administrators of onboarding programs. Interviews were transcribed and analyzed for themes by a team of researchers, with feedback from interviewees.

Results: Seven strategies were identified and are described in this article: Clinical mentoring, personal and professional mentoring, meeting with/shadowing other professionals, checking in by administrators, delivering didactic content, tailoring content or ramp-up, and assessing/ensuring competency.

Conclusions: This article describes commonly used strategies in onboarding programs for PAs and NPs and can provide guidance to those designing their own onboarding programs. The programs we examined relied heavily on mentoring and other strategies appropriate for adult learners. Future work should evaluate the effectiveness of onboarding programs.

Keywords: physician assistant, nurse practitioner, workforce, transition to practice, orientation, onboarding

Onboarding programs created to assist physician assistants (PAs) and NPs in their transition to clinical practice have potential to contribute to positive outcomes such as higher job satisfaction, improved continuity of patient care, and reduced employee turnover.[1-4] These programs may be especially important for novice PAs and NPs entering the challenging and unique practice environment of community health centers (CHCs). PAs and NPs make up close to half of the provider workforce in CHCs.[5] The high proportions of economically or socially disadvantaged patients served in CHCs can make transition to practice especially difficult, because new clinicians are required to address multiple social determinants of health in addition to providing medical care.

The workplace provides unique advantages and challenges for learning compared with more formal educational environments. Heavy clinical or administrative workload, lack of protected time away from clinical care, insufficient staffing, and lack of access to peers or clinicians with expert knowledge can be key barriers to workplace learning for PAs and NPs.[6] However, with its ability to present real patient problems and opportunities to observe and be observed in practice, the workplace is an optimal setting for the use of learning methods consistent with the tenets

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of adult learning theories.[7] These types of active learning strategies were viewed as more effective by PAs new to practice than more passive methods of learning.[8] Similarly, Klein and Heuser suggested that new hires will be most receptive to learning content that relates to their *current concerns*.[9] On-the-job learning, then, is highly relevant to new PAs and NPs.

We conducted an interview study of 13 organizations that have implemented onboarding programs, focusing on primary care settings, especially in underserved settings such as CHCs. Previously published results of these interview studies discussed the administration and content of onboarding programs.[10,11] This article, the final in a series of three, addresses the instructional strategies used to deliver the content and assist new clinicians with their transition to practice.

METHODS

Methods were described in full detail in the first article in this series.[10] Briefly, from May through July 2018, we conducted semistructured interviews with volunteers from 13 healthcare organizations about their approaches to onboarding new PAs and NPs. The volunteers represented a variety of organizations: multisite community health centers (6), academic medical centers (2), multispecialty integrated healthcare systems (2), a staffing organization (1), a large physician-owned multispecialty organization (1), and a small (five-clinician) PA-owned private practice (1). Interviewees were people who had responsibility for the onboarding process in their organizations, and who, in many cases, had developed the onboarding programs. Most were PAs, but one was a physician and one was a chief talent officer. Because all of these organizations reported that they onboarded PAs and NPs similarly, we generalized the findings to apply to both professions. Most onboarding programs were geared toward, but not exclusively to, new graduates, and most organizations that we studied indicated that most (65% to 75%) of their new PA and NP hires in recent years have been new graduates.

Interviews were transcribed and analyzed for themes by two independent coders. Although in the other two articles in this project we based thematic coding on a framework from Klein and Heuser, for this article we developed our theme coding for strategies *de novo,* because the Klein and Heuser framework did not include categorization of learning strategies.[9] Themes were discussed by the research team regularly and revised as required. We present our results descriptively because this qualitative study was not designed to produce numerical estimates.

RESULTS

From these interviews, several strategies emerged (**Figure 1**): Clinical mentoring, personal and professional mentoring, meeting with/shadowing other professionals, checking in by administrators, delivering didactic content, tailoring content or ramp-up, and assessing/ensuring competency. These strategies are described below. Quotations from the interviews are included in italics.

CLINICAL MENTORING

Most administrators indicated that mentoring was the most important aspect of their onboarding programs. Interviewees described a clinical mentor (who may or may not be the new employee's supervisor) as an experienced clinician who provides advice, feedback, and evaluation about clinical care and technical/procedural skills. Clinical mentors usually were available to the newly hired PAs and NPs during clinical hours for the first several months of employment. Mentors were available to answer questions or to help new PAs or NPs navigate their new environment. Commonly, mentors checked evaluation and management plans on request of the onboarding PAs and NPs, helped to identify resources available to address patients' problems, or assisted with using the electronic health record (EHR) more efficiently.

Other approaches to clinical mentoring, such as shadowing and shared/mentored visits, were used at some sites during the first few weeks of employment. Shadowing, in which a new hire observes and follows an experienced clinician but performs no independent patient care, was used in the "*credentialing lag… before [the PA or NP] can see any patients*" on their own. Organizations that used this strategy saw it as an opportunity to "*help our individual clinics create their own style and unify together as a team.*" Shadowing typically was limited to a few hours or a few days. About half of the organizations included in this study found that shadowing offered limited benefits and did not use this method at all. An alternate strategy that was used early in onboarding was to perform shared visits, in which the new hire and an experienced clinician visit a patient room together. In these visits, the experienced clinician can "*watch and answer questions and may also contribute to the patient's evaluation and management.*" In addition to ensuring appropriate clinical care, shared visits offer clinical mentors the opportunity to directly observe the new hire perform patient care activities in order to verify competency (see assessing/ensuring competency, below). Several clinics used a mentoring model similar to that used for students, where the new PA or NP would see "*one patient an hour from the experienced [clinician's] schedule,… present the patient, just like they were kind of still in school, but ultimately, they [the new PA or NP] would write the note, they would bill it. But the experienced… [clinician], … also has time to review with them and it's a pretty good teaching opportunity that we've found.*" Working with this model ensured an element of "*really tight quality control*" that was seen as essential for the initial phase of practice. Some organizations found these more direct supervisory forms of mentoring unnecessary for graduate clinicians, opting instead for the new PAs

or NPs to identify questions to discuss with their clinical mentors.

The period of clinical mentorship varied from site to site and heavier involvement of the mentor was typical in the initial phases, with a gradual increase of PA or NP autonomy. Organizations had various ways to reduce the burden of acting as a mentor; for example, "*having … a little bit of extra time built into their schedule to help [the new hire] with their patients.*" "*If they were mentoring two to three or four of them, the [physician] would have nobody to see on their panel, and they would just be available as the [PAs or NPs] came out to help with any questions or just be there for support.*" Other clinics provided the clinical mentor with a 1-hour block per week to meet with the new PAs or NPs to discuss clinical care. Some healthcare systems provided "*the main collaborating clinicians*" compensation for cosigning notes and mentoring.

PERSONAL AND PROFESSIONAL MENTORING

In contrast, a personal or professional mentor/coach is an experienced clinician, typically not the supervising physician or clinical mentor, assigned to guide the new hire, including in folkways and norms of the organization. Persons who served in this role could include a nonsupervising physician or another experienced PA or NP in the practice or organization. The mentor serves as a personal guide to help the newcomer navigate the transition from student to clinician by providing support, encouragement, and confidence-building. This mentor may have an additional role in gathering and providing feedback and coaching to the new hire. In some cases, this mentor was responsible for ensuring that the onboarding process was implemented effectively and that the new hire had a successful transition to practice.

Personal and professional mentoring is particularly important with new graduates who may be navigating not only acquisition of a higher level of medical knowledge and technical skills required of a practicing clinician, but also facing interpersonal and professional challenges within and outside the clinical team and in patient-provider encounters. Experienced mentors can help new hires navigate the establishment of their relationship with the supervising physician. Particularly with new graduates, "*the biggest difference is just really supporting them through that transition.*" The purpose of these meetings, in large part, was to provide encouragement and build self-confidence more than to evaluate performance. One interviewee put it this way, "*…We don't need to do so much evaluation—it is going to be a lot of confidence-building, and …it is just realizing what stage of life the new grads are in and the fact that these first couple weeks are really a really huge transition for them in terms of that confidence piece … And just really supporting that transition rather than overevaluating that transition.*"

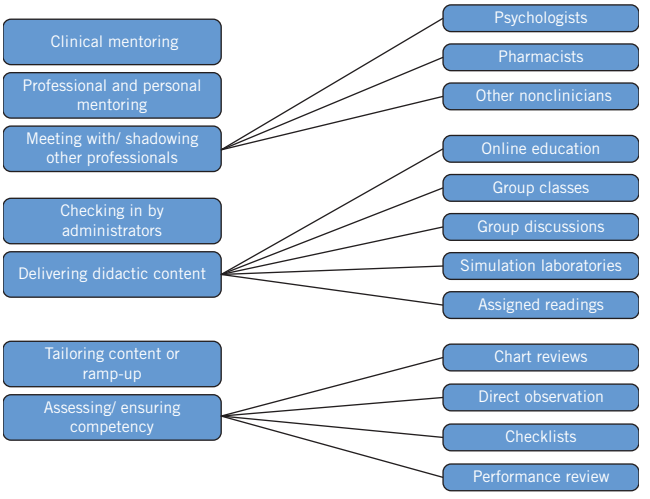

FIGURE 1. Strategies for delivering content in onboarding programs

Organizations accomplished this mentoring in different ways. One mentioned that they "*try to assign [a PA or NP to a PA or NP]… And it's kind of a monthly check-in... Also, we get a reminder on email, actually, about this.*" Small clinics were not always able to appoint an onsite personal/professional mentor, so this mentoring was carried out via phone or the internet so that the new hire still had someone "*to make sure that they're doing okay, they're fitting in.*"

Personal and professional mentorship often extended beyond the initial onboarding process, sometimes up to 2 years. This mentorship was designed to attain intangible goals of onboarding, including developing professionalism and confidence.

MEETING WITH/SHADOWING OTHER PROFESSIONALS

In primary care, especially in patient-centered medical homes, various members of the healthcare team participate in different aspects of patient care, with each member practicing to the utmost of their licensure. Activities to indoctrinate the PA or NP into team-based care included attending department meetings, participating in team huddles, being included on email groups, and meeting individually with various members of the team, particularly nonclinician staff. Meeting with patient care coordinators, RNs, team leads, and team assistants helped PAs and NPs learn the role of each of those individuals in patient care, and "*understand some of the workflows*" so that they know "*how to utilize our resources as best as possible.*" Doing so helped to define the PA or NP role on the team and helped new hires understand how they fit into the context of other team members' roles. The stated intent was to reduce PAs and NPs assuming all responsibility for patient care and burning out. "*The faster they can learn how to use their team, the less burden they'll be putting on themselves.*"

CHECKING IN BY ADMINISTRATOR

Check-ins by administrators were accomplished via meetings, lunches, or phone calls on a scheduled or as-needed basis. The administrator was sometimes a leader of the organization, the leader of the onboarding program, or a head PA or NP. Typically, this administrator is someone who is outside the work unit. These check-ins served to establish a personal connection with the leadership team, to provide an opportunity to network within the organization, and to help the new hire navigate potential conflicts within their team. Check-ins were designed to establish a culture of connectedness. *"Anybody…could pick up the phone"* and reach someone who could help.

DELIVERING DIDACTIC CONTENT

Delivery of didactic content was used to provide education during initial orientation, to check in with, and to provide ongoing contact with the new hires. Didactic content was delivered in various formats, and to new hires individually or in groups. Some interviewees described using case discussions with a clinical mentor or assignment of journal articles relevant to clinical care to ensure appropriate baseline knowledge and to refresh medical knowledge. Some sites used nonphysician staff, such as clinical pharmacists, to review pharmacologic management of specific diseases, either through a shared patient encounter or in dedicated didactic sessions. In simulation laboratories, new hires participated in simulated patient cases that "*really helped them put things together*."

Some didactic sessions took place on site with in-person delivery; others were off-site. Some sites used online platforms that offered the advantage of synchronous or asynchronous participation. An example of online modules required in one onboarding program is shown in **Table 1**. Online offerings reduced long in-person sessions that were seen as "*unwieldy*" and "*tortuous*." Completion of online modules that conferred CME were seen as mutually beneficial to the PA or NP and the clinic. Online modules were seen as especially useful for topics with legal or regulatory implications, as compliance could be verified electronically. Didactic sessions occurred in blocks of time from hours to days and one organization "*brought [new hires] back once a month for a didactic day and a lecture series,*" covering foundational knowledge, current events, relevant topic presentations, and case studies. New PAs and NPs were expected to start doing presentations themselves by the second quarter.

TABLE 1. Example of online modules offered in onboarding programs

Time frame	Required online module
Within 3 months of hire	Billing and compliance
	Documentation improvement
	Prevention of venous thrombosis
	Opioid training
	Quality and patient safety
	Electronic health record training
Within 6 months of hire	Patient experience
	Professionalism and ethics
	Measuring frailty
	How to work in teams
	Provider wellness and burnout prevention
Within 12 months of hire	How to conduct difficult conversations with patients

TAILORING CONTENT OR RAMP-UP

Onboarding program schedules and content were tailored at most sites to meet the needs of the work site and/or the new hire. Some organizations with diverse work units, such as multispecialty organizations, provided templates to be used to create onboarding programs specific to each work unit hiring a new PA or NP. In these cases, an experienced clinician would be assigned the responsibility of developing the program, based on the template and subject to approval by central PA or NP administrators. For example, if a PA or NP were hired to work in a primary care clinic in a large healthcare system, a clinician in the primary care clinic would develop an onboarding program to meet the needs of their site and of the new hire, based on the organization's template. Even in organizations with a narrow range of specialties, such as CHCs, individual clinic sites often implemented variations in the onboarding program in order to prepare new PAs for unique patient populations or other site-specific characteristics.

Some onboarding programs tailored the pace of clinical productivity expectations (ramp-up) depending on the new hire's previous clinical experience, previous knowledge of the EHR system, time since graduation, confidence and comfort, and achievement of certain competencies (**Table 2**). Modifications of the ramp-up schedule could be made based on regular check-ins with the new hire, mentors, and medical director. However, one organization avoided accelerating ramp-up schedules so that those who required more time would not experience "*frustration or concern that they weren't getting it*." Sites typically allowed longer visits of up to 1 hour for all encounters initially, "*to give people a chance to kind of adjust to the system,*" and gradually shortened visit times to target-length appointment slots. Some organizations combined this early generous patient scheduling with the availability of a clinical mentor with whom the new hire could consult in real time, and some offered support from EHR staff to help new clinicians develop efficient charting routines. Timing of this gradual ramp-up to a full schedule varied from a month (for practices with a narrow practice range or PAs or NPs with experience) to a few months, but several interviewees mentioned that some clinicians required 8 months to 2 years to reach full productivity. As one interviewee stated, employers "*shouldn't expect*

TABLE 2. Sample ramp-up schedule for new graduate PA or NP in primary care

Developed from information provided by an interviewee regarding scheduling in primary care at a CHC.

Weeks	1-3	4-5	6-11	12-25	26-38***	39+
Patients per 4-hour session*	Mentor schedule**	3 (25%)	4 (33.3%)	6 (50%)	8 (66.7%)	12 (100%)
Sessions per week with dedicated clinical mentorship	All**	10 (100%)	5 (50%)	Taper by one session weekly	0	0
Patient care slots per session that clinical mentor's schedule is reduced by when providing dedicated clinical mentorship	4	4	4	3	0	0

*This schedule does not account for no-show rate. Patients scheduled per session might need to be increased to account for no-show rate. Numbers shown are for patients seen.

**During the first 2 weeks, most of the new hire's time is spent in orientation activities such as human resources procedures, completing required trainings, and meeting team members. Any patients seen would be shared patients from the clinical mentor's schedule.

***Move to full schedule after week 25 if ready. Must be agreed to with team lead and training team.

this person to be seeing patients at a rate that generates revenue to offset their compensation during that first year." Several administrators mentioned their observation and expectation that new PA or NP graduates take longer to reach full productivity than those with previous experience.

ASSESSING/ENSURING COMPETENCY

Most onboarding programs included interim evaluations of the new hire's performance via chart reviews with feedback, direct observation, checklists, and/or performance reviews.

Chart review with feedback Chart reviews, in which someone reviews the new hire's work as documented in the medical record and provides feedback as needed, were commonly used in onboarding programs. These chart reviews verified appropriate billing and coding, ensured that key components of the visit were documented, and confirmed that patients were receiving appropriate clinical care. One organization stressed the value of using a chart review as a unique way to gain insight into a new graduates' clinical decision-making. The new clinician receives "*feedback after you see them go through the whole entire process—either to give feedback or give support, that you're doing it well, and just reassurance that they're doing what they need to do and that they're going to survive and be great practitioners here.*"

In some cases, the duration of and/or percentage of charts that must be reviewed and/or cosigned by a supervising physician is mandated by the state or healthcare system. In other cases, onboarding program guidelines detail chart review procedures, typically during the first 1 to 3 months of employment.

Direct observation This method to verify competency of the new hire involved an experienced clinician such as the supervising physician or clinical mentor watching the new hire perform real or simulated patient care activities. "*Doing mentored and observed practice is the application of clinical judgment and then actions, and you can gauge whether they've hit the standard and that they're competent. You can assess their fund of knowledge.*" Direct observation often was used for technical procedures, "*…everything from performing an H&P to sticking a needle in a joint… For the PAs, it's a supervising physician that watches and checks.*"

Checklists Onboarding programs commonly used checklists to:

- organize collection of regulatory information, such as credentialing, licensure, completion of compliance and trainings
- dispense information that all new hires should receive, such as organizational policies and schedules for department meetings
- verify clinical training that all new hires should receive.

Some interviewees stressed timing, stating that onboarding procedures and completion of checklists begin at the time of the interview, including items such as appropriate qualifications of the applicant and introduction of the applicant to the organization. Checklists also were used to guide planning of the onboarding process for PAs individually or in small groups, including scheduling activities, planning ramp-up, and organizing support.

Checklists were used not only by those who administered onboarding programs, but also by the new hires themselves, typically in the form of logs that showed that they gained experience in performing certain types of procedures or patient care activities. This type of checklist was commonly used for technical procedures (see direct observation), and to ensure adequate exposure to particular diseases (for example, patients with diabetes) or to patients of particular age ranges (for example, newborns). Interviewees reported that checklists were a way for the new hires to document their abilities and to share with their team their readiness to take on particular patient care activities.

Assessments Most sites performed informal and formal evaluations. Informal evaluations were frequent. For example, one site scheduled review meetings "*each week with goals for each week and readings for each week and a feedback mech-*

anism so at every 2 weeks the [PA or NP] and the mentor… complete a biweekly evaluation. That biweekly evaluation is sent to our director of professional development …, and the idea is that we are trying to capture as early as possible any gaps or any problems for the [PAs or NPs] during [their] orientation. Every 2 weeks, some sort of feedback tool comes back."

Formal reviews took place at scheduled times, for example, 30, 60, or 90 days. Evaluations addressed not only the PA's or NP's technical ability to perform procedural skills, but also the cognitive and interpersonal skills integral to their success in their clinical setting. The evaluations could be performed by medical directors, onboarding program administrators, lead PAs or NPs, clinical mentors, professional/personal mentors, or others as designated by the organization.

DISCUSSION

This article presents strategies that organizations employ in the onboarding process for their new PAs and NPs. Size and available resources of the organization, number of new hires, previous experience of the new hires, intrinsic motivation, and self-directedness of the new hires may affect which model of delivery ultimately is selected.[8] Additional considerations in selection of strategy include minimizing disruption of existing clinician schedules, minimizing the time to become fully competent, and maximizing clinician competence and confidence. Although no strategy is clearly preferred, work by Klein and colleagues showed that the more onboarding activities that are experienced by new employees, the better socialized the new hire will be.[12] Commonly emphasized strategies that emerged from our analysis include an emphasis on mentorship, focus on acquisition of practical clinical knowledge and skills that follow adult learning theory, the need for a ramp of clinical productivity expectations, and the importance of establishing a culture of openness that involves the entire organization in onboarding.

PAs were born out of an apprenticeship model, so it comes as no surprise that strong mentorship remains an important method of learning. What may be surprising to some is that the assigned mentor is not always the collaborating physician. Indeed, the relationship with a collaborating physician may require mentorship. Experienced PAs and NPs within or external to the practice site have an important role to play in mentoring new PAs and NPs. In the onboarding programs included, mentorship encompassed not only clinical and technical skills but also professional development, navigation of personal and professional issues, and confidence-building. As seen in existing literature in onboarding, the mentoring relationship is important. Mentorship by a colleague has been associated with improved role transition from student to clinician, and may positively influence clinician self-confidence.[13] The work by Klein and colleagues also showed that assigning a fellow associate as a "buddy" is viewed as highly beneficial by new hires.[12] This finding may speak to the particularly important role that a mentor fills in giving positive and constructive feedback. Consistent with adult learning theory, adults learn from experiences, including from making mistakes.[7] The ability of the new hire to receive and incorporate feedback is an essential element to professional growth.

Onboarding is practical, skill-based training geared toward acquisition of knowledge that will immediately be put to use, which is consistent with adult learning theory. Adult learning theory states that adults learn best when the material is timely, relevant, and problem-centered.[14] The workplace then provides an optimal setting. Polansky's work showed that active learning methods following adult learning theory are perceived by new practicing PAs as more effective.[8] Another tenet of adult learning theory is that adults need to be involved in the planning and evaluation of their instruction.[14] Some onboarding programs included an element of self-assessment and allowed content to be tailored to individual needs. Klein and Heuser suggested that new hires will be most receptive to learning content that relates to their current concerns.[9]

A graduated ramp-up of clinical productivity expectations is important for new hires as it allows time for important on-the-job training before assuming all clinical responsibilities. Without significant clinical experience from which to draw, new graduate PAs and NPs will require a longer ramp-up period than experienced PAs and NPs. Faraz and colleagues stated that time to complete work is particularly important for novices, who desire more time to see special population groups, develop skills, and to discuss challenging patients and ethical dilemmas with mentors and peers.[13] We were not able to discern an appropriate speed of ramp-up or an average time required to reach full productivity in this study, because ramp-up must be individualized for a new hire and for the setting.

Finally, a cross-cutting theme identified is the importance of setting a culture of supportiveness and openness. The idea that it takes a team to onboard a new PA or NP was mentioned in the description of mentoring, meeting with team members, meeting with leadership, and tailoring of onboarding to individual needs. Each member of the team was encouraged to be approachable to questions from the new hire in order to establish a culture "*that you have people that feel like they can go to anybody; they can ask the questions that they need to*." Administrators we spoke to mentioned the involvement and mentorship of clerical and clinical staff alike in the onboarding process. Ultimately, the support and encouragement of the team may lead to a more confident and well-adjusted PA or NP who is better "*buffer[ed] against the effects of stress of transition*."

LIMITATIONS

Although our sample represented 13 distinct onboarding programs from a variety of geographic settings and organizational structures, it is not large nor diverse enough to be

fully representative of the onboarding practices in all healthcare organizations. The major strategies we identified were mentioned by most interviewees; however, we might have discovered additional themes if our sample size was larger. Additionally, our study did not include NP interviewees. However, the administrators that we interviewed indicated that their onboarding approaches are the same for PAs and NPs. Most of the programs that we examined were relatively large, and it might be difficult for smaller organizations to implement resource-intensive onboarding programs.

CONCLUSION

This article is the final in a series of three that characterized onboarding programs using qualitative interviews.[10,11] This line of research can be used to inform healthcare organizations in their design and implementation of onboarding programs in order to improve retention of PAs and NPs and, ultimately, to improve quality of patient care. **JAAPA**

REFERENCES

1. Sullivan-Bentz M, Humbert J, Cragg B, et al. Supporting primary health care nurse practitioners' transition to practice. *Can Fam Physician*. 2010;56(11):1176-1182.
2. Barnes H. Exploring the factors that influence nurse practitioner role transition. *J Nurse Pract*. 2015;11(2):178-183.
3. Barnes H. Nurse practitioner role transition: a concept analysis. *Nurs Forum*. 2015;50(3):137-146.
4. Warner ML, Maio C, Hudmon KS. Career patterns of physician assistants: a retrospective longitudinal study. *JAAPA*. 2013;26(6):44-48.
5. Proser M, Bysshe T, Weaver D, Yee R. Community health centers at the crossroads: growth and staffing needs. *JAAPA*. 2015;28(4):49-53.
6. Lloyd B, Pfeiffer D, Dominish J, et al. The New South Wales allied health workplace learning study: barriers and enablers to learning in the workplace. *BMC Health Serv Res*. 2014; 14:134.
7. Russell SS. An overview of adult-learning processes. *Urol Nurs*. 2006;26(5):349-352,370.
8. Polansky M. Strategies for workplace learning used by entry-level physician assistants. *J Physician Assist Educ*. 2011;22 (3):43-50.
9. Klein HJ, Heuser AE. The learning of socialization content: a framework for researching orientating practices. *Res Personnel Hum Resour Manage*. 2008;27:279-336.
10. Morgan P, Sanchez M, Anglin L, et al. Emerging practices in onboarding programs for PAs and NPs. *JAAPA*. 2020;33(3): 40-46.
11. Sanchez M, Anglin L, Rana R, et al. Emerging practices in onboarding programs for PAs: program content. *JAAPA*. 2020;33(9):38-42.
12. Klein HJ, Polin B, Leigh Sutton K. Specific onboarding practices for the socialization of new employees. *Int J Sel Assess*. 2015;23(3):263-283.
13. Faraz A. Novice nurse practitioner workforce transition and turnover intention in primary care. *J Am Assoc Nurse Pract*. 2017;29(1):26-34.
14. Knowles M. *The Adult Learner: A Neglected Species*. 4th ed. Houston, TX: Gulf Publishing; 1990.