

Development and Implementation of Nurse Performance Appraisal Tools in a Public Hospital

Bir Devlet Hastanesinde Hemşire Performans Değerlendirme Araçlarının Geliştirilmesi ve Uygulanması

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Abstract

This one-cycle action research was conducted to develop and implement appraisal tools for the assessment of nurse performance. This study was conducted in four stages at a 336-bed public hospital employing 239 nurses in one province in the central Anatolia region of Turkey. In the first stage of the study, a list of the tasks performed by nurses and the key points of nurse performance were created through job analysis and observations. The opinion and expectation form applied in the second stage showed that 76.4% of the nurses wanted an open evaluation by their unit nurse manager, and 94.7% thought that nurses in different units should be evaluated with different criteria. In addition, nurse performance evaluation tools were developed at this stage. These nurse performance appraisal tools included nine key performance standards for staff nurses and seven for nurse managers. The content validity index of the tools was calculated as .99–1.00 and intraclass correlation coefficients were found .85–.93. During the third stage, the nurses were evaluated by the unit nurse managers and the unit nurse managers were evaluated by the executive nurse with the performance appraisal tools. In the last stage, the satisfaction of nurses and nurse managers with the performance evaluation system was measured and they expressed that they were satisfied.

Keywords: Employee performance appraisal, nurses, staff development, work performance

Özet

Bu eylem araştırması, hemşire performansının değerlendirilmesine yönelik değerlendirme araçlarının geliştirilmesi ve uygulanması amacıyla yapılmıştır. Bu çalışma, Türkiye'nin orta Anadolu bölgesinde yer alan bir ilde, 239 hemşirenin çalıştığı 336 yataklı bir devlet hastanesinde dört aşamada gerçekleştirilmiştir. Çalışmanın ilk aşamasında iş analizleri ve gözlemler ile hemşirelerin yaptıkları işlerin listesi ve hemşire performansının kilit noktaları oluşturulmuştur. İkinci aşamada uygulanan görüş ve beklenti formu, hemşirelerin %76,4'ünün birim hemşire yöneticisi tarafından açık değerlendirme yapılmasını istediğini, %94,7'sinin ise farklı birimlerdeki hemşirelerin farklı kriterlerle değerlendirilmesi gerektiğini düşündüğünü göstermiştir. Ayrıca bu aşamada hemşire performans değerlendirme araçları geliştirilmiştir. Hemşire performans değerlendirme araçları, hemşireler için dokuz, servis sorumlu hemşireleri için yedi temel performans standardını içermektedir. Araçların kapsam geçerlilik indeksi .99-1.00 olarak hesaplanmış ve sınıf içi korelasyon katsayıları .85-.93 olarak bulunmuştur. Üçüncü aşamada performans değerlendirme araçları (7 adet) kullanılarak hemşireler birim hemşire yöneticileri tarafından, birim hemşire yöneticileri ise bakım hizmetleri müdürü tarafından değerlendirilmiştir. Son aşamada, hemşireler ve yönetici hemşirelerin performans değerlendirme sisteminden memnuniyetleri ölçülmüş ve memnun olduklarını ifade etmişlerdir.

Anahtar Kelimeler: Çalışan performans değerlendirme, çalışan geliştirme, hemşire, iş performansı

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1. Introduction

The competitive environment that started in the 1980s with the impact of globalization has made it necessary to carry out performance improvement studies (Schleicher et al., 2019). Policy makers, managers, and researchers have attributed a great importance in measuring and improving the performance of healthcare professionals within the scope of continuous quality improvement initiatives conducted for healthcare performance (Anderson et al. 2019; Ahluwalia et al., 2017; Akdag, 2012). The aim of evaluating employee performance in healthcare institutions is to identify and reveal the employees' strengths and weaknesses and to motivate them to provide maximum contribution and performance. The goal of performance appraisal (PA) is to improve the quality of healthcare services and patient outcomes (Issen et al. 2018; Schub & Mennella, 2018). Nurses, who represent the majority of healthcare professionals, undertake important tasks in providing healthcare services at all levels in hospitals and in improving the quality of service (Aeyels et al. 2019; Dubois et al., 2017; Issen et al. 2018). Their satisfaction with PA affects their job motivation (Aly & El-Shanawany, 2016; Kahya and Oral, 2018), and job performance and efficiency (Aly & El-Shanawany, 2016). It is important to conduct an objective measurement for staff nurses' performance in order to increase their contribution to organizational objectives (Javidmehr & Ebrahimpour, 2015; Kahya & Oral, 2018; Madlabana et al., 2020). In this context, manager nurses need to have well-structured PA tools and performance management skills (American Organization of Nurse Executives [AONE], 2015). However, poor practices in the implementation of performance systems within the health sector have been shown to have a negative impact on employees' perceptions of fairness and accountability, which in turn leads to high staff turnover and poor clinical outcomes (Madlabana et al., 2020).

Performance appraisal, which is also an important component of the career development system (Schub and Mennella, 2018), is an official, continuous, and dynamic process in which managers evaluate employee performance and provide feedback (Rapin et al., 2019). This process allows employees to focus on the organizational vision, mission, core values, and critical success factors; creates an opportunity to strengthen the relations between the interviewer-interviewee or the manager-employee; and it improves employee engagement (Bussin, 2017; Madlabana et al., 2020; The King's Fund, 2012). Nurses' perception of performance appraisal has positive relation with work performance and affective organizational commitment and negative relation with turnover intention (Ibrahim et al. 2019). After the performance evaluation is completed, employees must consider PA as a well-structured and effective system for helping them understand how to perform their jobs better and set clear objectives for making improvement, while managers/employers must consider it as an opportunity to show appreciation to their employees. A study with nurses emphasized that constructive feedback, active participation, and education are the most important components of PA (Becker et al., 2018; Schleicher et al., 2019; Sepahvand et al., 2020). In addition, a study's findings (Hamdeen et al., 2022) concluded that staff nurses highly perceived performance appraisal fairness and work engagement, most of staff nurses had high levels of work engagement, and there was a statistically highly significant positive correlation between staff nurses' perception of performance-appraisal fairness and their work engagement.

An effective PA system should incorporate clearly expressed standards of behavior for employees at different levels of the organization (Becker et al., 2018). The American Nurses Association (ANA) recommends the “Standards of Professional Nursing Practice,” which defines a set of professional behaviors for the evaluation of nursing performance (ANA, 2015). There are some well-designed and successfully implemented studies on nurse PA in the literature (Fawzy Zaki, 2018; Hamdeen et al., 2022). However, a study conducted by Nikpeyma et al. (2014), indicates that PA systems should be improved because there are various problems related to their organizational context and structure, process, and outcome factors.

Some studies conducted in Turkey indicate that there are problems regarding the nurse performance evaluation system and measurement of nurses’ performance (Kahraman and Baykal, 2009; Karadağ et al., 2013). In a study carried out with 219 nurse managers, it was reported that only the registration form was used to evaluate nurse performance in public hospitals in accordance with the 657 Civil Servants Law, and institution-specific forms were used in private hospitals. Furthermore, 59.8% of the nurse managers in this study stated that effective performance evaluation was not carried out (Kahraman and Baykal, 2009). In another study conducted with 306 nurses, about three-quarters of the participants reported that performance evaluation criteria were not shared with them and that promotions were not based on work performance and skills (Karadağ et al., 2013). On the other hand, it is stated that there is a great need to develop practical models for performance evaluation systems in nursing services due to the abolition of the “State Officers Registry Regulation” used in public hospitals starting with 2011 (Regulation on Amending the Regulation on Complaints and Applications of Civil Servants and the General Regulation on the Training of Candidate Civil Servants and the Repeal of Some Regulations, 2011) as well as the limited number of studies on the evaluation of nurse performance (Dost, 2016; Aydemir Gedük, 2020). In this context, this study was carried out to develop and implement performance evaluation tools to measure the performance of nurses working in different units in a public hospital affiliated to the Ministry of Health in Turkey. It is expected that the results of the study will both create a model by meeting the needs of the institution and create a source for similar studies to be researched in future.

2. Method

The study was conducted as action research in one-cycle that requires collaboration between both the researchers and participants to improve practice. There are four main stages in action research: developing a change/action plan, implementing the plan, analyzing the results, and identifying changes to be transferred to the next action plan (Polit & Beck, 2017; Sepahvand et al., 2020).

2.1. Aim of the study

This study aimed to develop and implement performance appraisal tools to measure the performance of nurses in a public hospital in Turkey.

2.2. Research Questions

- What are the nursing duties and key points of nurse performance based on nurses' job analysis?
- What are the opinions and suggestions of nurses regarding the performance evaluation system?
- Is the content of already developed nurse performance appraisal tools valid?
- What are the perceptions and views about the development and implementation processes of NPATs?

2.3. Setting and Sample

This study was conducted at a public hospital in a province in the central region of Turkey. The 336-bed hospital has four intensive care units (44 beds), an operating room (9 rooms), an emergency room (35 observation beds), a dialysis unit (12 beds), and 12 medical and/or surgical wards (280 beds). The hospital provides services for internal medicine, surgery, gynecology and obstetrics, and pediatrics. There are 239 nurses working in the hospital: 217 staff nurses, 20 head nurses, and two (2) nurse executives. There was no tool or PA system implemented within the hospital to evaluate nurse performance. In fact, there were no nurse PA systems at that time implemented in any of the public hospitals in Turkey. This study was carried out based on the request of the hospital management to establish such a system and initiate change for the annual PA of nurses.

The Nurse Performance Appraisal Tool (NPAT) Development & Implementation Committee, was established to manage the development and implementation processes of the PA tools consisting of a researcher, two nurse executives, eight head nurses (unit nurse managers), twelve staff nurses, and a quality improvement coordinator, who were working at the hospital where the study was conducted in this action research. The reasons for the selection of these nurses were as follows: (1) They represented nurses working in the different units (medical-surgical wards, critical care unit, emergency room, operational room, dialysis unit) and positions (executive nurse, nurse managers in units, staff nurse, quality improvement coordinator nurse; (2) they had been working in their current position for at least three years; and (3) they volunteered to participate in the study. An additional three researchers provided consultancy for the committee's actions (Figure 1).

The committee prepared a worklist, timetables, and assigned responsibilities related to the development and implementation process of the PA tools. The study was carried out with nurses working in the hospital and volunteered to participate in the study during the job analysis and the evaluation process of the PA (Figure 1).

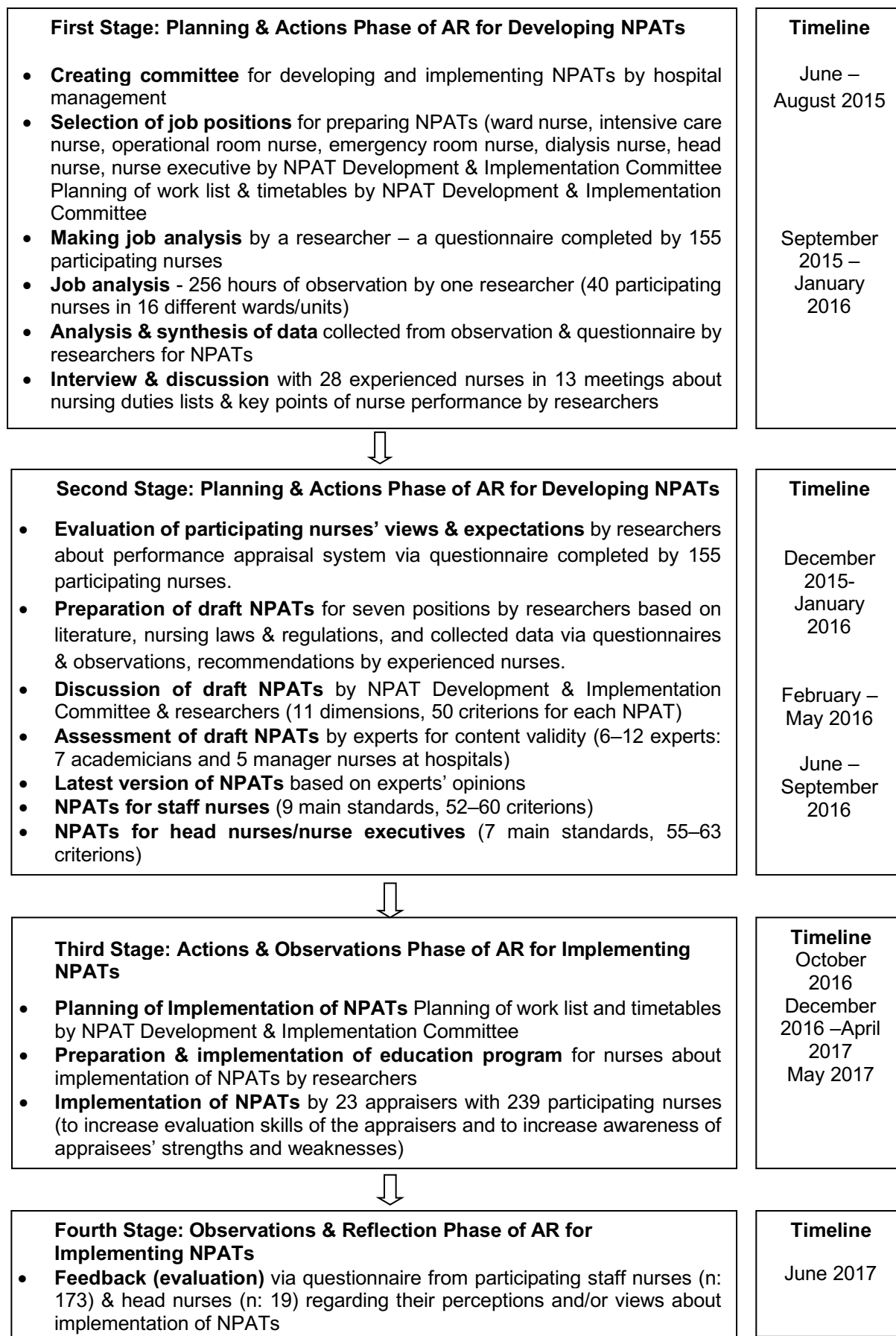


Figure 1: Four Stage: Process for developing NPATs

2.4. Data Collection and Data Collection Tools

2.4.1. First Stage in Development of NPATs: In the first stage of this research, job analysis was conducted by using three types of data collection methods: questionnaire, observation, and interview. Here are the steps taken at this stage to develop NPATs and define nursing performance standards and criteria (Figure 1). Firstly, the Job Analysis Survey was distributed to 155 staff nurses who agreed to participate in the study. The survey asks for the nurses working in both day and night shifts to list their duties and responsibilities along with the duration of each.

Secondly, one of the researchers performed 256 hours of observation in 16 units using the Job Analysis Observation Form and listed the activities that the nurses conducted. In order to organize the data obtained in the survey and observation phase, three researchers analyzed the nursing activities obtained from the questionnaire and observation, and they created a separate Nursing Activity List for each position or unit. The purpose was to have a single list without duplication of the work done by the nurses in each unit. Finally, thirteen interviews were conducted with experienced nurses to determine whether there were any tasks that could be added to these lists to finalize them. These interviews were conducted by one of the researchers with ten experienced head nurses and eighteen staff nurses working in the relevant units. Thus, using questionnaire, observation, and interview methods, lists were obtained of the work done by the nurses in nine different units or positions (two administrative and seven inpatient units).

2.4.2. Second Stage in Development of NPATs: In the second stage of this research, a survey containing seventeen questions was distributed to determine the views and expectations of the nurses regarding the PA system (seven questions about sociodemographic characteristics; ten questions about views and expectations). The survey was sent out to 200 nurses who were actively working in the hospital at that time (excluding those on annual leave or sick leave) and 155 nurses responded. Researchers created draft NPATs based on the data obtained in the previous steps, in accordance with legal regulations for the nursing profession and a literature review on nursing by standards. A five-point Likert grading scale was used for the NPATs. The development and implementation committee discussed and finalized each draft. The NPATs, prepared as a draft for seven different job positions, were submitted to a twelve-expert panel with four-point Likert-type scale questions regarding the suitability and understanding of the key standards and criteria within the content, and content validity was analyzed based on the experts' opinions.

2.4.3. Third Stage in Implementation of NPATs: In the third stage of the research, based on the results of this survey and the literature review for guidance on the implementation of the new PA system and NPATs for appraiser (manager) and appraisee (staff nurses), an education program was prepared and implemented. Twenty-three managers evaluated a total of 239 nurses over a one-month period using NPATs related to their job positions. Afterwards, performance appraisal interviews were conducted.

2.4.4. Fourth Stage in Evaluation of NPATs: In the fourth stage of the research, the perceptions and views of staff nurses (n: 173) and head nurses (n: 19) were evaluated with a questionnaire prepared by researchers regarding the implementation process of the NPATs. This questionnaire included 18

questions, one of which was open-ended: How effective was the implementation of the performance evaluation in practice?

2.5. Ethical Considerations

Ethical approval was obtained for the study from Bulent Ecevit University Clinic Research Ethics Review Board (2015-48-23/06). Permission was obtained from the hospital. The nurses were informed about the research requirements and process, and informed consent was obtained from all participants.

2.6. Limitations

There are some limitations in this study. Firstly, because system improvement takes time, concluding this study in the fourth stage (six months after implementation) may be a limitation in terms of seeing the effects of the performance appraisal system over the long term. Secondly, the fact that the inter-rater reliability and internal consistency reliability analyses of the NPATs could not be conducted due to time constraints may be a limitation for the use of the NPATs. There is a need to examine reliability of the NPATs.

2.7. Data Analysis

In the first two stages of this research to develop the NPATs, the data obtained from the questionnaires, observations, and interviews were analyzed and examined by the researchers. The PA forms (n=239) applied in the third stage of the study were evaluated by the manager nurses of each unit, and the PA score obtained was shared with the employees by open interview method. The data obtained from the interview forms were analyzed by the researchers. Statistical analysis of the draft NPATs, including content validity index (CVI) and interclass correlation (ICC), was performed by the expert panel. In the last stage, the data regarding the views and satisfaction of the nurses towards the performance evaluation process were examined using descriptive statistics such as frequency and percentage.

3. Results

The results were given in the order of each stage of the study.

3.1. First stage: In the first stage of the study, lists of activities performed by nurses and key points of nurse performance were created as a result of job analysis, observations, and interviews. According to the lists, 109 activities for nurses, 74 activities for managers were obtained.

3.2. Second stage: In the second stage of the research, according to the results of the 155 questionnaires eliciting nurses' views regarding the PA system, most of the nurses stated they would feel comfortable with having a performance evaluation (81.9%). Most nurses reported that they had never received preparational training for PAs (95.5%) and expressed that they would need more education about a PA management system (81.3%) (Supplement Table 1). In addition, the nurse performance evaluation tools developed at this stage, Eleven key standards and 47–60 criteria for PA, were obtained from the seven draft NPATs and submitted to expert panel (Supplement Table 2a-2b). The number of standards, criteria, and content of each NPAT were changed according to the expert panel feedback. The number of NPAT standards prepared for staff nurses decreased from eleven to nine, while there was both an increase and decrease in number of criteria for some. The number of

standards was changed to seven, and the number of criteria was 55–63 for head nurses and nurse executives. According to the experts' opinions, the CVI of the NPATs was found between .99-1.00 and the ICC values were determined to be between 0.85-0.93 ($p < .001$) (Table 1 and Table 2).

Table 1. Key Standards for Each NPAT for Staff Nurses

Key Standards	Ward-NPAT for staff nurse	ICU-NPAT for staff nurse	OR-NPAT for staff nurse	ER-NPAT for staff nurse	Dialysis-NPAT for staff nurse
	NOCs	NOCs	NOCs	NOCs	NOCs
1. Nursing Practices for Medical Diagnosis: Evaluates patients through initiating medical diagnosis and examination, contributes to identifying the most appropriate diagnosis with critical thinking and interpretation skills.	6	8	4*	7	6
2. Nursing Practices for Medical Treatment: Performs treatment approved by the physician and evaluates the results.	7	8	9**	8	7
3. Process of Nursing Care: Ensures the best care process for hospitalized patients through planning, implementing, and evaluating the nursing care plan effectively and efficiently from admission to discharge.	12	12	8***	9	14
4. Management of the Unit: Displays appropriate attitudes and behaviors in accordance with the functioning and organization of the unit.	9	9	8	9	9
5. Quality and Efficiency: Follows and participates in the practices carried out within the scope of quality and efficiency.	4	4	4	4	4
6. Adapting to Organizational Culture: Adopts the objectives, goals, policies, and regulations of the institution and participates in teamwork with other professional groups.	5	5	5	5	5
7. Professionalism: Displays professional attributes and behaviors with knowledge, skills, and abilities at all times while providing nursing services.	5	5	5	5	5
8. Education: Follows the current developments that will contribute to their professional development and guides their colleagues, patients, and patient's relatives as a mentor/educator.	5	5	5	5	5
9. Research: Follows current studies and developments and applies it to provide the best patient care practices.	4	4	4	4	4
Overall NOCs	57	60	52	56	59
Number of experts for CVI	12	6	6	6	6
CVI	1.00	1.00	1.00	1.00	1.00
ICC ($p < .001$)	.86	.86	.85	.87	.85

CVI= content validity index, ER= emergency room, ICC= intraclass correlation coefficients, (two-way random effects model= consistency, ICU= intensive care nurse, NOCs= number of criteria, NPAT= nurse performance appraisal tool, OR= operating room

* Nursing Practices= Semi-Sterile Area Practices= Knows the operation process of semi-sterile areas and initiates the preoperative preparations in accordance with the procedure.

** Nursing Practices= Sterile Area Practices= Prepares operating room and patients before the surgery in accordance with the regulations.

*** Nursing Practices= Surgical Intervention Practices= Knows necessary instructions for an effective and efficient surgery and displays appropriate nursing care behaviors.

Table 2. Key Standards for NPATs for Manager Nurses (Head Nurses & Nurse Executive)

Head Nurse-NPAT		Nurse Executive-NPAT	
Key Standards	NOCs	Key Standards	NOCs
1. Care Services Management: Provides planning and implementation of nursing care plan effectively and efficiently and evaluates nursing care interventions.	12	1. Management of the Department: Manages managerial services to achieve the overall goals of the institution.	12
2. Management of the Unit: Provides effective and efficient use of resources (human resources, physical and financial resources, medical consumables, medicines, etc.).	16	2. Patient Care Services Management: Ensures providing quality and safe patient care services.	9
3. Quality and Efficiency: Follows the practices carried out within the scope of quality and efficiency and ensures the participation of employees.	5	3. Human Resources Management: Provides an effective and efficient management by improving all human resources.	9
4. Improving Organizational Culture: Ensures appropriate behaviors in accordance with the organizational culture regarding goals, objectives, policies and regulations.	6	4. Quality and Efficiency: Plays an active role in the improvement and development of healthcare services to improve quality.	5
5. Leadership and Professionalism: Becomes a role model for the nursing services team with leadership skills and professional behavior and ensures compliance with ethical rules.	8	5. Improving Organizational Culture: Leads the establishment of the organizational culture regarding goals, objectives, policies and regulations.	7
6. Education: Provides training and consultancy support by following the current developments that will contribute to the professional development of themselves and all employees.	4	6. Leadership and Professionalism: Leads the healthcare services team with professional characteristics and enables them to develop professional behaviors.	12
7. Research: Follows the current studies and developments and ensures their implementation and conducts nursing researches specific to their unit.	4	7. Research and Innovation: Ensures that healthcare services are provided in the most efficient manner, follows the current scientific developments and provides their implementation.	9
Overall NOCs	55		63
Number of experts for CVI	12		12
CVI	1.00		.99
ICC ($p < .001$)	.93		.87

CVI= content validity index, ICC= intraclass correlation coefficients, (two-way random effects model= consistency, NOCs= number of criterions, NPAT= nurse performance appraisal tool

3.3. Third stage: Twenty-three managers evaluated a total of 239 nurses over a one-month period using NPATs related to their job positions. In the PA interviews, the manager nurses ended the evaluation by sharing the strengths and weaknesses of the nurses, the training needs and the aspects that need to be developed, and the total evaluation score they received.

3.4. Fourth stage: The following results were obtained from the last questionnaire (173 staff nurses and 19 head nurses) which evaluated the perceptions and views about the development and implementation processes of NPATs. First, the majority of the head nurses and staff nurses reported that they were generally satisfied with the PA process. Approximately half of the nurses thought that the PA results would be used for managerial decisions regarding employees (Supplement Table 3). According to the

responses to the open-ended question, staff nurses stated that they realized the importance of their job and practice during the discussion of their performance evaluation, that it contributed to their understanding of the management's expectations, and that they were motivated by recognizing their strengths and weaknesses. Nurse executives and head nurses stated that the PA system was useful for selecting the right employees and for placing them in the most appropriate positions, for understanding the expectations of employees, for promoting teamwork among nurses and leading them to the achievement of common objectives.

4. Discussion

This action research conducted at a public hospital in Turkey over two years includes the process of developing and implementing nurse PA tools. The experience and results obtained from our study suggests a better understanding of the process of designing and implementing measurements tools for a successful job PA system, a very important function of human resources for the assessment of nursing services in hospitals.

We also conclude that nursing and top hospital management teams play a crucial role in conducting the PA as planned and ensuring the participation of all staff nurses. Because all employees play a key role in the achievement of the goals and objectives of the institution (Schub and Mennella, 2018; Javidmehr & Ebrahimpour, 2015), staff motivation must be enhanced for the effective implementation of a PA system. Managers need to demonstrate a strong commitment to successfully implement a PA system and to maintain its continuity through motivating their employees because projects developed and conducted without top management support often result in failure. Top management, with a strong commitment, reveals its expectations on performance, and motivates employees to adopt and commit to the organization (Pulakos et al., 2015; Sepahvand et al., 2020).

In this research, data collection methods such as questionnaires, observations, and interviews used for job analysis to create a foundation for the development of NPATs, as recommended in the literature (Hamdeen et al., 2022), provided an opportunity to examine and reveal the current tasks and responsibilities of nurses in greater detail. In addition, it was extremely useful to compare the data obtained from the study with the national legislative regulations for nurses' duties, authorities, and responsibilities, which were redetermined by the Turkish Ministry of Health in 2010-2011 (Regulation on Amendments to the Nursing Regulation, 2011; Nursing Regulation, 2010), and with the international nursing standards (ANA, 2015), and to discuss and evaluate the results with committee members and head nurses. Consequently, this helped us in our goal to develop a PA tool based on the current roles and responsibilities of nurses as well as their traditional duties, acknowledged by the subject group that represents all nurses working in the hospital. Additionally, the developed PA tools, based on these comparisons and collective decisions, have enhanced awareness among nurses in fulfilling the duties included in their legal job descriptions and requirements. A study shows that nurses' involvement in revising and improving the process of their performance appraisal leads to higher commitment (Sepahvand et al., 2020).

It has been an important experience for us to determine the key competencies that demonstrate the basic performance standards in the NPATs. In the literature, it is stated that PA systems should be designed based on competency models that include descriptors regarding knowledge, skills, ability, and success. The competency models include all the technical, leadership, and interpersonal factors associated with success and reveals the most important variables for the organization. Definition of competencies related to performance standards helps employees understand the concept of behavioral change according to the expectations and the skills they need to develop. In addition, managers have the opportunity to evaluate employees equally in a transparent way and create a sense of justice among them. It is generally recommended to identify five to ten key standards in a PA tool (Gunawan et al., 2019; Ibrahim et al. 2019; Pulakos et al., 2015). In this study, we determined eleven performance standards in the first drafts of the NPATs based on the job analysis, legal regulations, and international nursing standards, and the opinions of expert nurses in the hospital. This number was reduced from eleven to nine and eleven to seven, respectively, for the staff and manager NPATs, which were then submitted to the experts for their opinions in order to determine content validity.

The questionnaires, which revealed the opinions and expectations of nurses towards performance evaluation, indicated a need for additional nurse education and training. Previous studies have emphasized the necessity to elicit the thoughts and opinions from managers and employees, and to provide training from the beginning of the design process to enable them to use the system effectively (Schleicher et al., 2019). Additionally, evaluating staff nurses and helping them in setting goals, improving their performance, and taking corrective actions are among the most important skills that nurse managers should possess, and they require continuous improvement (AONE, 2015; Gunawan et al., 2019). Clear goal setting and providing constructive feedback are very important in performance evaluation interviews, and nurse managers play a critical role here because this approach ensures an employee's commitment to goals (Rapin et al., 2019; West et al., 2015). The desired outcome of conducting employee performance appraisals in the healthcare setting is to identify employees' strengths and weaknesses, and to motivate them to perform their maximal potential, with the ultimate goal of improving patient care outcomes (Schub & Mennella, 2018).

The feedback we received from the employees regarding the implementation of the PA system indicated that the majority of managers and staff nurses were satisfied with the PA process. These results are important for showing that the process of developing and implementing PA tools was generally considered to be well-structured (The King's Fund, 2012). In addition, the fact that approximately half of the nurses expressed positive feelings toward using PA results in managerial decisions related to nurses, or toward knowing that this process is permanent, indicates a significant outcome. These results also suggest that new strategies are needed with a more intense effort to achieve sustainable change resulting from PA systems implemented in the hospital over a long period of time (e.g. two years).

5. Conclusion

Conducting nurse PAs in healthcare institutions is an important management practice that contributes to the improvement of both individual and organizational performance. This one-cycle action research, which assessed the development and implementation of NPATs to evaluate the performance of nurses

at a public hospital in Turkey, concluded that the NPATs' contents were valid and could be applied in practice. Our experience has shown that top management support, employee engagement, using different job analysis methods, and providing preparational training for employees are important factors for successful PA tools development and implementation.

It is important that nurse managers wishing to design or revise a performance appraisal system get the support of senior management, include all nurses in every step of this process, and educate them from the onset. Additionally, we recommend not only that nurse managers adopt a PA system and ensure its effective continuity but also that top institutional management provide strong support and commitment in order to successfully integrate such a system into the organizational culture. We also recommend evaluating construct validity, inter-rater reliability, and internal consistency tests of NPATs in the future for nurse managers and researchers. In addition, researchers may evaluate the effects of a nurse performance appraisal system in longitudinal studies.

Authors Contributions

Topic selection: EAG, AY, ÜB, ET; Design: EAG, AY, ÜB, ET; Planning: EAG, AY, ÜB, ET; Data collection: EAG; Data analysis: EAG, AY, ÜB, ET; Article writing: EAG, AY, ÜB, ET; Critical review: EAG, AY, ÜB, ET.

Conflict of Interest

The authors declare that there is no conflict of interests.

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Nurse Performance Appraisal

Supplement Table 1. Nurses' Views and Expectations towards Performance Appraisal Process (n: 155)

Variables	n	%
Does evaluation of your performance make you comfortable?		
Yes	127	81.9
No	28	18.1
For what purposes should performance appraisal results be used in your institution?*		
Improving service quality and efficiency of the organization	48	39.7
Rewards and incentives	44	36.2
Determination of training requirements	18	14.7
Promotion	4	2.6
Discipline	2	1.7
Which of the following items should be included in the nurse performance appraisal system?*		
Different criteria should be established for nursing staff working in different units.	144	92.9
Nurses' level of professional knowledge and skills should be measured.	104	67.1
Nurses' personal qualities and skills (intelligence, analytical skills, entrepreneurship, etc.) should be evaluated.	101	65.2
The level of task performance specified in the job description should be evaluated.	77	49.7
The level of performance in achieving the goals set by the hospital management should be evaluated.	23	14.8
Who should evaluate your performance?*		
Head nurses	113	72.9
Nurse executive	52	33.5
Colleagues I work with	51	32.9
Physicians and other health professionals I work with	11	7.1
How should you participate in performance appraisal decisions?		
My opinion should be asked before the decision.	76	49.0
My opinion should be asked for all decisions.	63	40.6
It should be confidential, my opinion is not needed.	16	10.3
How often should the performance appraisal be performed?		
Once a year	71	45.8
Once every six months	69	44.5
At the end of the orientation process	15	9.7
Should you have the right to object to performance appraisal?		
Yes	148	95.5
No	7	4.5
Which authority should receive your objection to performance appraisal? (n: 148)		
Executive nurse	88	59.5
Head nurse	28	18.9
Quality management unit	14	9.5
Hospital management office	11	7.4
None	7	4.7
Have you received training on performance appraisal?		
Yes	7	4.5
No	148	95.5
Would you like to receive training on performance appraisal?		
Yes	126	81.3
No	29	18.7

* Multiple options are marked.

Nurse Performance Appraisal

Supplement Table 2a. Expert Panel (Before and After): Number of Key Standards and Criteria for Each Draft NPAT for Staff Nurses

Key standards	Ward-NPAT for staff nurse	ICU-NPAT for staff nurse	OR-NPAT for staff nurse	ER-NPAT for staff nurse	Dialysis-NPAT for staff nurse
	NOCs	NOCs	NOCs	NOCs	NOCs
Before					
Standard I. Medical Diagnosis and Practices: Evaluates patients through initiating medical diagnosis and examination, contributes to identifying the most appropriate diagnosis with critical thinking and interpretation skills.	9	9	5	7	7
After					
Standard I. Nursing Practices for Medical Diagnosis: Evaluates patients through initiating medical diagnosis and examination, contributes to identifying the most appropriate diagnosis with critical thinking and interpretation skills.	6	8	4*	7	6
Before					
Standard II. Medical Treatment and Practices: Performs treatment approved by the physician and evaluates the results.	9	9	10	10	10
After					
Standard II. Nursing Practices for Medical Treatment: Performs treatment approved by the physician and evaluates the results.	7	8	9**	8	7
Before					
Standard III. Process of Nursing Care: Ensures the best discharge process for patients through planning, implementing, and evaluating the medical care plan effectively and efficiently.	12	14	10	11	12
After					
Standard III. Process of Nursing Care: Ensures the best care process for hospitalized patients through planning, implementing, and evaluating the nursing care plan effectively and efficiently from admission to discharge.	12	12	8***	9	14
Before					
Standard IV. Support for Management of the Unit: Displays an appropriate attitude and behavior in accordance with the functioning and organization of the unit.	6	6	6	6	6
After					
Standard IV. Management of the Unit: Displays an appropriate attitude and behavior in accordance with the functioning and organization of the unit.	9	9	8	9	9
Before					
Standard V. Quality and Efficiency: Follows and participates in the practices carried out within the scope of quality and efficiency.	3	3	3	3	3
After					
Standard V. Quality and Efficiency: Follows and participates in the practices carried out within the scope of quality and efficiency.	4	4	4	4	4

Nurse Performance Appraisal

Supplement Table 2a. Expert Panel (Before and After): Number of Key Standards and Criteria for Each Draft NPAT for Staff Nurses (continued)

Key standards	Ward-NPAT for staff nurse	ICU-NPAT for staff nurse	OR-NPAT for staff nurse	ER-NPAT for staff nurse	Dialysis-NPAT for staff nurse
	NOCs	NOCs	NOCs	NOCs	NOCs
Before					
Standard VI. Adapting to Organizational Culture: Adopts the objectives, goals, policies, and regulations of the institution and acts through them.	2	2	2	2	2
After					
Standard VI. Adapting to Organizational Culture: Adopts the objectives, goals, policies, and regulations of the institution and participates in teamwork with other professional groups.	5	5	5	5	5
Before					
Standard VII. Team Work and Communication: Complies with horizontal and vertical communication rules in the execution of nursing services and cooperates with all professional groups.	4	4	4	4	4
After					
Standard VII. Professionalism: Displays professional attributes and behaviors with knowledge, skills, and abilities at all times while providing nursing services.	5	5	5	5	5
Before					
Standard VIII. Leadership and Professionalism: Displays professional attributes and behaviors with knowledge, skills, and abilities at all times while providing nursing services.	3	3	3	3	3
After					
Standard VIII. Education: Follows the current developments that will contribute to their professional development and guides their colleagues, patients, and patient's relatives as a mentor/educator.	5	5	5	5	5
Before					
Standard IX. Education: Follows the current developments that will contribute to their professional development and guides their colleagues, patients, and patient's relatives as a mentor/educator.	5	5	5	5	5
After					
Standard IX. Research: Follows current research and developments and applies it to provide the best patient care practices.	4	4	4	4	4
Before					
Standard X. Research: Follows current research and developments and applies it to provide the best patient care practices.	3	3	3	3	3
After					
Standard X. (revised to Standard IX. Research)					
Before					
Standard XI. Ethics: Provides nursing services in line with ethical rules and patient rights.	2	2	2	2	2
After					
Standard XI. (moved to Standard VII.)					
Overall - Before	58	60	53	56	57
Overall - After	57	60	52	56	59

ER: emergency room, ICU: intensive care nurse, NOCs: number of criteria, NPAT: nurse performance assessment tool, OR: operating room

***Standard I. Semi-Sterile Area Practices:** Knows the operation of the semi-sterile area and initiates the preoperative preparations in accordance with the standards.

** **Standard II. Sterile Area Practices:** Makes patient and room preparation in accordance with standards before surgery.

*** **Standard III. Surgical Intervention Nursing Care Process:** Knows the necessary standards for effective and efficient surgeries and displays appropriate nursing care behaviors.

Nurse Performance Appraisal

Supplement Table 2b. Expert Panel (Before and After): Number of Key Standards and Criteria for Each Draft NPAT for Head Nurse and Nurse Executive

Head nurse-NPAT		Nurse executive-NPAT	
Key Standards	NOCs	Key Standards	NOCs
Before Standard I. Medical Diagnosis and Practices: Evaluates patients through initiating medical diagnosis and examination, contributes to identifying the most appropriate diagnosis through critical thinking and interpretation skills.	6	Before Standard I. Medical Diagnosis, treatment and Practices: Oversees the process of medical diagnosis, treatment and care planning practices by managing and evaluating effectively and efficiently.	7
After Standard I. Care Services Management: Provides planning and implementation of nursing care plan effectively and efficiently and evaluates nursing care interventions.	12	After Standard I. Management of the Department: Manages managerial services to achieve the overall goals of the institution.	12
Before Standard II. Medical Treatment and Practices: In line with the medical diagnosis, administers the treatment approved by the physician to the patient.	8	Before Standard II. Management of the Nursing Services Team: Organizes and directs the team to achieve corporate goals by providing the most effective and efficient service.	8
After Standard II. Management of the Unit: Provides effective and efficient use of resources (human resources, physical and financial resources, medical consumables, medicines, etc.).	16	After Standard II. Patient Care Services Management: Ensures providing quality and safe patient care services.	9
Before Standard III. Process of Nursing Care: Ensures the best discharge process for patients by planning, implementing, and evaluating the medical care plan effectively and efficiently.	9	Before Standard III. Management of the Institution: Provides efficient use of resources.	7
After Standard III. Quality and Efficiency: Follows the practices carried out within the scope of quality and efficiency and ensures the participation of employees.	5	After Standard III. Human Resources Management: Provides effective and efficient management by improving all human resources.	9
Before Standard IV. Management of the Unit: Provides efficient use of resources.	7	Before Standard IV. Patient Satisfaction: Works to achieve the highest patient satisfaction rates through the best service delivery.	3
After Standard IV. Improving Organizational Culture: Ensures appropriate behaviors in accordance with the organizational culture regarding goals, objectives, policies and regulations.	6	After Standard IV. Quality and Efficiency: Plays an active role in the improvement and development of healthcare services to improve quality.	5
Before Standard V. Quality and Efficiency: Follows best quality and efficiency practices and ensures the participation of employees.	3	Before Standard V. Quality and Efficiency: Improves the quality of healthcare services by working toward developing nursing services.	4
After Standard V. Leadership and Professionalism: Becomes a role model for the nursing services team through leadership skills and professional behavior, and ensures compliance with ethical rules.	8	After Standard V. Improving Organizational Culture: Leads the establishment of the organizational culture regarding goals, objectives, policies and regulations.	7

Nurse Performance Appraisal

Supplement Table 2b. Expert Panel (Before and After): Number of Key Standards and Criteria for Each Draft NPAT for Head Nurse and Nurse Executive

Head nurse-NPAT		Nurse executive-NPAT	
Key Standards	NOCs	Key Standards	NOCs
Before Standard VI. Adapting to Organizational Culture: Knows the objectives, goals, policies, and regulations of the institution and ensures they are followed appropriately.	2	Before Standard VI. Adapting to Organizational Culture: Knows the objectives, goals, policies, and regulations of the institution and ensures they are followed appropriately.	3
After Standard VI. Education: Provides training and consultancy support by following the current developments that will contribute to the professional development of themselves and all employees.	4	After Standard VI. Leadership and Professionalism: Leads the healthcare services team professionally and enables staff to develop professional behaviors.	12
Before Standard VII. Team Work and Communication: Complies with horizontal and vertical communication rules in the execution of nursing services and cooperates with all professional groups.	3	Before Standard VII. Team Work and Communication: Exhibits exemplary behavior to employees and cooperates with all professional groups while conducting nursing services.	4
After Standard VII. Research: Follows current research and developments and ensures their implementation, and conducts nursing researches specific to their unit.	4	After Standard VII. Research and Innovation: Ensures that healthcare services are provided in the most efficient manner, follows the current scientific developments and provides their implementation.	9
Before Standard VIII. Leadership and Professionalism: Becomes a role model for the nursing services team through effective leadership and professional behaviors.	3	Before Standard VIII. Leadership and Professionalism: Becomes a role model for the nursing services team through effective leadership and professional behaviors.	3
After Standard VIII. (moved to Standard V)		After Standard VIII. (revised to Standard VI)	
Before Standard IX. Education: Follows the current developments that will contribute to their professional development and guides their colleagues, patients, and patient's relatives as a mentor/educator.	5	Before Standard IX. Education: Implements training programs for the development of nursing services.	3
After Standard IX. (revised to Standard VI)		After Standard IX. (moved & revised to Standard VI)	
Before Standard X. Research: Follows current research and developments to provide the best patient care practices.	3	Before Standard X. Research: Follows current research and developments to provide the best patient care practices.	3
After Standard X. (revised to Standard VII)		After Standard X. (moved & revised to Standard VII)	
Before Standard XI. Ethics: Provides nursing services in line with ethical rules and patient rights.	2	Before Standard XI. Ethics: Provides nursing services in line with ethical rules and patient rights.	2
After Standard XI. (moved to Standard V)		After Standard XI. (moved & revised to Standard V)	
Overall - Before	51		47
Overall - After	55		63

NoCs: number of criteria, NPAT: nurse performance assessment tool

Nurse Performance Appraisal

Supplement Table 3. Nurses' Perceptions and Views about PA Processes

Head nurses (n: 19)	n	%	n	%
Perceptions towards appraisal knowledge & skills	Satisfied		Not satisfied	
Feeling competent during PA	17	89.5	2	10.5
Acting objectively during PA	14	82.4	3	17.6
Allowing appraisees to indicate their rights during the interview	15	78.9	4	21.1
Allowing appraisees to express their opinions and thoughts during PA	15	78.9	4	21.1
Allowing appraisees to object to PA results	16	84.2	3	15.8
Using PA results	Yes		No	
To improve personal and professional development of nurses	10	52.6	9	47.4
To make decisions about nurses	10	52.6	9	47.4
Trust in PA practices to be conducted regularly and reliably within the institution	11	57.9	8	42.1
Staff nurses (n : 173)				
Implementation of PAs	Satisfied		Not satisfied	
Informing appraisees prior to conducting PA	152	87.9	21	12.1
Appraiser's ability to remain objective during PA	148	85.5	25	14.5
Appraiser's ability to remain fair and impartial towards all appraisees	152	87.9	21	12.1
Having opportunity to express opinions and thoughts during PA	145	83.8	28	16.2
Having opportunity to object to PA results	137	79.2	36	20.8
Appraiser's perceived competence in performing PA	136	78.6	37	21.4
Using PA results	Yes		No	
Contribution of PA to personal and professional development	87	50.3	86	49.7
Trust in management to use PA results effectively	77	44.5	96	55.5
Trust in PA practices to be conducted regularly and reliably within the institution	98	56.6	75	43.4