

Original Article

Evaluation of Nurses' Shift Handover

Selda Karaveli Cakir, PhD, RN

Assistant Professor, Department of Surgical Nursing, Faculty of Health Science, Kastamonu University, Kastamonu, Turkey

Filiz Ozel Cakir, PhD, RN

Assistant Professor, Department of Internal Medicine Nursing, Faculty of Health Science, Kastamonu University, Kastamonu, Turkey

Correspondence: Filiz Ozel Cakir, Kastamonu University, Faculty of Health Science, Kastamonu, Turkey
E-mail address: filiz.ozel.ege@gmail.com

Abstract

Background: The shift handover process is important for patient safety in the nursing profession. Information should be accurate, complete, and understandable in the shift handover, and should be provided by the right people at the right time.

Aim: This descriptive cross-sectional study was conducted to evaluate the shift handover effectiveness of nurses.

Methodology: The study sample consisted of 192 nurses who perform a shift handover. The study data were collected using the personal information form and the Handover Evaluation Scale.

Results: In the study, the mean score of nurses on the Handover Evaluation Scale was 58.61 ± 8.53 , and it was found that the nurses had a higher level of handover effectiveness. It was found that 64.1% of nurses prepared before a handover, and all nurses spent 30 minutes or less on shift handover.

Conclusions: Although the shift handover efficiency of nurses was found to be at a higher level in the study, it is obvious that developing standard forms for shift handover is important in order to ensure and maintain patient safety. It is recommended to conduct further studies in order to contribute to the literature on this topic.

Keywords: nursing, shift handover, shift

Introduction

Shift handover, which is the process of sharing specific patient-related information between health care professionals, means that patient care is temporarily or permanently transferred to another health care professional (Wang, He, & Feng, 2021; Taskiran, & Sari, 2017). Moreover, the purpose of shift handover is to ensure the continuity of care provided to the patient and to increase the quality of care (Tuna, & Dalli, 2018a). In order to ensure patient safety during the shift handover process, information should be provided by the right people at the right time in an accurate, complete, and understandable way (Australian Commission on Safety and Quality in Health Care, 2010).

Shift handover is mostly performed during shifts changes when the patient is referred to another clinic or hospital (Smeulders, Lucas, & Vermeulen, 2014). During a shift handover, accurate and

systematic sharing of patient information between health care professionals is possible through continuous communication (Taskiran, & Sari, 2017; Moore, 2012). In the shift handover process, deficiencies and errors in patient information, ineffective communication, inexperienced staff, excessive workload, time constraints, fatigue, environmental factors are among the factors that disrupt the shift handover process, causing an ineffective handover. A shift handover that is not performed properly increases the risk of patient safety, patient harm, medical errors, prolonged hospital stay and, in turn, increases the cost and reduces the quality of care and patient satisfaction (Taskiran, & Sari, 2017; Tuna, & Dalli, 2018a).

In clinical nursing practice, there is no standardized form of patient handover, usually shift handover is performed in a non-systematic manner. Standardization is an important criterion

for an effective shift handover. There are studies in the literature showing that the use of standardized forms in the shift handover reduces communication problems that may occur during the handover, leads to effective time management, improves patient safety and quality of care (Raeisi, Rarani, & Soltani, 2019; Alrajhi, & Alsaawi, 2019; Ahmed et al., 2012). In a shift handover, patient information can be transferred using methods such as written, verbal, computer records, and phone records. The use of an only oral expression in handover is not a desirable method, it is necessary to record the information transferred (Pothier et al., 2005). The methods used in the shift handover may vary between health care providers. Hospitals can use verbal or written methods by creating their own shift handover procedures, in addition to the computer record systems for the shift handover procedures (Tugrul, & Sahbaz, 2021).

Shift handover plays an important role in ensuring patient safety, maintaining and improving the quality of care. Therefore, increasing the number of studies to be performed related to the shift handover process and revealing the deficiencies in the process will contribute to ensuring patient safety. This research was planned to determine the shift handover effectiveness of nurses working in a training and research hospital, and to determine whether there are differences between personal and professional variables and handover.

Hypothesis:

H1: The personal and professional characteristics of nurses do not affect the average score of the Handover Evaluation Scale.

H2: The personal and professional characteristics of nurses affect the average score of the Handover Evaluation Scale.

Methodology

Research type: This study is descriptive cross-sectional research.

Study population/ sample: The study population consisted of nurses who performed shift handovers in a training and research hospital. In the study, it was aimed to reach all the study population without any sample selection (N:358). In the study, after the nurses were informed about the research, data were collected from 205 nurses who agreed to participate in the study, and 192 of these data were included in the sample. Data were collected by reaching 53.93% of the study population.

Data collection instruments: The study data were collected in the studied hospital by face-to-face survey method between September and November 2021. In the study, the personal information form and the Handover Evaluation Scale were used as data collection tools.

Personal information form: The personal information form developed by the researchers has 17 items on the sociodemographic characteristics of the nurses (gender, age, marital status, educational status, working time at the institution, working time in the profession, working unit, willingness in performing the nursing profession, the status of preparation before making shift handover, problems experienced during a shift handover, duration of shift handover, and patient capacity in the working unit).

Handover Evaluation Scale: The Turkish validity and reliability of the scale developed by O'Connell et al. (2014) was carried out by Tuna and Dalli (2019) in 2019. The scale is a 7-point Likert-type scale. There are two sub-scales and 10 items in the scale: "Quality of information" sub-scale (7 items, internal consistency: 0.91) and "Interaction and support" sub-scale (3 items, internal consistency: 0.82). The internal consistency coefficient of the total scale was calculated as 0.92. The handover effectiveness is assessed by scale total score. The scores that can be taken in the scale are in the range of 10-70. A score in the range of 10-23 points indicates low-level handover, 24-47 points indicate a moderate level handover, and 48-70 points indicate a high level of handover. In our study, the internal consistency coefficient of the total scale was found to be 0.91, the internal consistency coefficient of the "Quality of information" sub-scale was 0.91, and the internal consistency coefficient of the "Interaction and support" sub-scale was 0.88.

Evaluation of the data: The data obtained from the study were analyzed using the Statistical Package for the Social Sciences (SPSS) v20.0 for Windows package program. Descriptive statistics (number, percentage, mean, standard deviation) and internal consistency analysis (Cronbach's alpha) were used to evaluate the data. Kolmogorov-Smirnov Test was used to determine whether the data showed a normal distribution. One-way analysis of variance (ANOVA) and independent samples t-test was used for parametric data, and Mann-Whitney U test and Kruskal-Wallis H test were used for nonparametric data. The results were evaluated

within a 95% confidence interval, and $p < 0.05$ was considered statistically significant.

Ethical Issues: Written permission was obtained from the Science, Engineering and Health Sciences Scientific Research and Publication Ethics Committee of the university for the research (Decision no: 2020-2/6). In order to apply the "Shift handover assessment scale" used in the study, written permission was obtained by e-mail from the authors who conducted the Turkish validity and reliability study of the scale. Explanations about the purpose of the research are given in the introduction section of the data collection form. In accordance with this information, written permission was obtained from the nurses who checked the "I agree to participate in the study" option at the top of the data collection form. The study was conducted in accordance with the Declaration of Helsinki.

Results

Looking at the distributions of the personal and professional characteristics of the nurses participating in the shift handover activities, it was found that 85.4% of the nurses was female, their average age was 32.36 ± 7.87 , 65.1% was married, and 79.2% had a Bachelor's degree. It was found that 51% of the nurses worked in this institution for 1-5 years, and 78% was in the nursing profession between 1-5 years. Of the nurses, 34.9% was working in the internal clinic, and 75% was performing this profession willingly. It was found that 64.1% of the nurses prepared before handover, 84.4% had no problems with the handover, all nurses spent 30 minutes or below on handover, and the average time spent on handover was 21.73 ± 7.14 minutes (Table 1).

Of the nurses, 123 stated that they were preparing before a shift handover. Regarding the preparations made, 85 nurses responded to the open-ended items about the preparations. The preparations of nurses before a shift handover include a final check of patient care, paperwork, checking the forms to be transferred (ordering inpatient follow-up documents, preparing a clean copy of the list of inpatients in the service,

checking the patient files, and completing any missing information, putting lab results, pre-operative notes, and consultation notes in the file), patient wrist bracelet and IV control, asking for the missing medication, taking notes of the deliveries, keeping the shift book, pharmaceutical preparation, monitoring of vital signs, the count of narcotic drugs, checking the emergency vehicle, and maintaining the service order (keeping the setting in order). Thirty nurses stated that they had problems with the shift handover. Of the nurses who experienced problems, 19 nurses expressed their problems in response to the open-ended question. These problems were expressed as deficiencies (information/medicine), lack of staff, failure to provide care for patients, responsibilities that were not fulfilled, interruption in handover (questions of patient relatives, request of doctors for patient visits).

It was found that nurses performed shift handovers verbally (65.2%). It was found that there was no difference between morning and night shift handover (64.6%), on the other hand, morning shift handover was more effective (89.6%), and the strength of both morning (81.7%) and night shift (77.7%) handover was the "participation of all service nurses in shift handover" (Table 2).

Table 3 shows the mean scores of nurses on the Handover Evaluation Scale and its sub-scales. The mean total score of nurses' Handover Evaluation Scale was 58.61 ± 8.53 , the mean "quality of information" sub-scale score was 41.75 ± 5.85 , and the mean "interaction and support" sub-scale score was 16.86 ± 3.65 .

In the comparison of the total score averages of the nurses in the Handover Evaluation Scale in terms of their personal and professional characteristics, no significant difference was found in terms of gender marital status, educational status, working unit, problems encountered during a patient handover, and duration spent in shift handover ($p > 0.05$) (Table 4).

Table 1. Personal and professional characteristics of nurses (N=192)

	n	%
Gender		
Female	164	85.4
Male	28	14.6
Age (Mean±SD)	32.36±7.87 (Min:22, Max:57)	
Marital status		
Married	125	65.1
Single	67	34.9
Education status		
Vocational School of Health	8	4.2
Associate degree	21	10.9
Bachelor's degree	152	79.2
Graduate	11	5.7
Working years in the institution		
Less than 1 year	28	14.6
1-5 years	98	51.0
6-10 years	30	15.6
11 years and over	36	18.8
Working time in the profession		
Less than 1 year	6	3.1
1-5 years	78	78
6-10 years	42	42
11 years and over	66	66
Working Unit		
Internal medicine service	67	34.9
Surgical service	60	31.3
Intensive Care	43	22.4
Emergency service	22	11.5
Performing the nursing profession willingly		
Yes	144	75
No	48	25
Status of preparation before a shift handover		
Yes	123	64.1
No	69	35.9
Status of having problems during a shift handover		
Yes	30	15.6
No	162	84.4
Shift handover time		
10 minutes.	10	5.2
15 minutes	61	31.8
20 minutes	39	20.3
25 minutes.	10	5.2
30 minutes	72	37.5
Patient capacity of the studied unit		
1-9	43	22.4
10-19	117	60.9
20 and over	32	16.7
Shift handover time	21.97±7.14 (Min:10, Max 45)	

Table 2. Distribution of findings on the shift handover process of nurses

Variables		n	%
How is the shift handover usually performed?*	Verbal	139	65.2
	Written	125	65.1
	At the bedside	107	55.7
	Computer records	25	12.9
Are there any differences experienced between the morning and night shift handover?	Yes	68	35.4
	No	124	64.6
Which shift is the most effective for a shift handover?*	Morning shift	172	89.6
	Night shift	108	56.2
What are the strengths of the morning shift handover?*	Participation of all service nurses in the shift handover	157	81.7
	Performing shift handover verbally and in writing at the bedside	106	55.2
	Performing shift handover accompanied by the service nurse in charge	78	40.6
What are the strengths of the night shift handover?*	Participation of all service nurses in the shift handover	149	77.7
	Performing shift handover verbally and in writing at the bedside	110	57.3
	Performing shift handover accompanied by the service nurse in charge	61	31.4

* Multiple options were checked.

Table 3. Distribution of the score averages taken in the Handover Evaluation Scale

Scale sub-scales	Number of items	α	Mean score Mean \pm SD
Shift handover assessment scale total	10	0.91	58.61 \pm 8.53
Quality of information sub-scale	7	0.91	41.75 \pm 5.85
Interaction and support sub-scale	3	0.88	16.86 \pm 3.65

α : Cronbach's alpha internal consistency coefficient, Mean: Average, SD: standard deviation

Table 4. The comparison of Handover Evaluation Scale score averages according to personal and professional characteristics

Variables	n	Mean \pm SD	Test and Significance
Gender			
Female	164	58.71 \pm 8.88	U 2110 p 0.494
Male	28	58.00 \pm 6.22	
Marital status			
Married	125	58.20 \pm 9.42	U 4043 p 0.694
Single	67	59.38 \pm 6.55	
Education status			
Vocational School of Health	8	60.00 \pm 7.36	KW 4.465 p 0.215
Associate degree	21	58.47 \pm 15.15	
Bachelor's degree	152	58.56 \pm 7.43	
Graduate	11	58.61 \pm 7.54	
Working Unit			
Internal medicine service	67	59.05 \pm 7.90	KW 5.618 p 0.132
Surgical service	60	59.63 \pm 5.29	
Intensive Care	43	57.60 \pm 13.00	

Emergency service	22	56.45±6.22	
Working years in the institution			
Less than 1 year	28	59.85±6.30	KW 7.536 P 0.057
1-5 years	98	57.08±9.76	
6-10 years	30	59.83±7.67	
11 years and over	36	60.80±6.31	
Status of having problems during a patient handover			
Yes	30	57.70±6.46	U 2087 p 0.219
No	162	58.78±8.87	
Shift handover time			
15 minutes and below	71	58.56±8.26	U 4137 p 0.669
16 minutes and over	121	58.64±8.72	

KW: Kruskal-Wallis Test U: Mann Whitney U Test

Discussion

Shift handover is the transfer of important clinical information between health care providers (Leung, Emery, & Egan, 2021), and effective information transfer during nursing shift handover contributes to patient safety (Hada et al., 2021). The majority of nurses, who participated in our research conducted to determine their shift handover effectiveness, was found to make preparations before a handover, and the average time spent on handover was found to be 21.73±7.14 minutes. In the literature, it is observed that the time spent on handover is between 15-45 minutes depending on the general condition of the patient and the number of patients hospitalized in the clinic (Tugrul, & Sahbaz, 2021; Welsh, Flanagan, & Ebright, 2010; Tuna, & Dalli, 2018b). In their study, Tugrul and Sahbaz (2021) found the average time of patient handover as 30.56±12.56 minutes, while Tuna and Dalli (2018b) found in their study that the average time spent on shift handover was 24.73±9.46 minutes. In our study, although the time spent on shift handover was found to be consistent with the literature, the time spent on shift handover was obtained by the nurses self-reports, which were estimated averages. It is known that this period will increase or decrease depending on the number of inpatients in the clinic and the clinical condition of the patient.

It was emphasized in the literature that communication is important in the shift handover. In their systematic review, Raeisi et al. (2019) found that various challenges, such as miscommunication, lack of coordination, failure to use a checklist, poor handover management, and poor time management were experienced during a shift handover, and as a result of their

study, they identified that communication is the main difficulty of the process. When the literature was reviewed, it was seen that verbal communication was especially important. However, in their randomized controlled trial that compared bedside face-to-face shift handover types, performed verbally or written, Pothier et al. (2005) found that the most data loss occurred during verbal handover. In their study conducted to explain the characteristics, contents, and the compatibility of the content transfer of the handover tools used by nurses for the shift handover reporting, Timmerman et al. (2021) found in the content analysis that the handover tools include patient's first and last name, date of birth, room number, medical history, allergy status, vital signs, medications, IV, test results, and care plan, but the content related to patient safety was small, and handwritten notes were incompatible between the shifts. In our study, it was found that 65.2% of the nurses performed shift handover verbally, 65.1% in written form, 55.7% at the bedside, and 12.9% at the computer records. In their study, Tugrul and Sahbaz (2021) found that 64% of nurses perform bedside handovers verbally in the clinics where they worked. In the same study, 47.8% of the nurses believes that handover should be performed verbally at the bedside, and 41.8% believes that it should be written at the bedside. In their review study, Hada and Coyer (2021) found that shift handover performed at the bedside improves communication between nurses, and that adoption of standard patient handover instruments reduces undesirable events in patients, especially medication errors, falls, and pressure injuries. In our study, it was found that the vast majority of nurses made verbal and written handovers, and the bedside handover rate was low. The reason for this

is believed to be that the time period allocated for the data collection coincided with the COVID-19 pandemic.

In our study, it was found that there was no difference in the shift handover between the morning and night shifts. Similarly, in the literature, Tuna and Dalli (2018b) found that there was no difference in the morning and night shift handover. In their qualitative research conducted to investigate and improve the shift handover process in a city hospital in Canada, Leung et al. (2021) reported that one of the main themes identified was "that shift handover among health care professionals increases awareness of the team, and positively contributes to communication and relationships of health care professionals". In our study, nurses stated that "all service nurses participate in handover" as a strong aspect of both the morning shift (81.7%) and the night shift (77.7%). In the study by Tugrul and Sahbaz (2021), 81% of the nurses stated that all the nurses who came to the shift and leave the shift participated in the handover. What is desired in a shift handover is the participation of the entire team in the shift handover process. However, due to some emergency situations arising from the provision of health care may occur, it may not be possible for all nurses to participate in the shift handover. In our study, it is seen that the participation rate of all nurses in handover is high.

In their phenomenological research that investigated shift handover experiences of newly graduated nurses in Hong Kong public hospitals, Chung et al. (2021) found that newly graduated nurses perceived shift handover as the implementation of basic nursing interventions necessary to maintain patient care. It was found that newly graduated nurses have problems with shift handover due to their inability to synthesize important information, and their use of unsystematic reports during a shift handover. In our study, the number of employees working as nurses for less than 1 year in the studied hospital was found to be quite small. In our study, those who had problems with the handover stated the following problems: deficiencies (information/medicine), lack of staff, failure to provide care for patients, responsibilities that are not fulfilled, and interruption of the handover (questions of patient relatives, doctors' request for patient visits). Failure to implement basic nursing interventions for patient care is perceived as a problem even if it is expressed by a small number of nurses in our study.

The negative consequences of inadequate nursing shift handover on patient safety are widely accepted both in the literature and in practice (Losfeld et al., 2021). In our study, the total score average of nurses' Handover Evaluation Scale was found to be 58.61 ± 8.53 at a high level. Tuna and Dalli (2018b), using the same scale, found that the total score average of nurses in the Handover Evaluation Scale was 56.50 ± 11.60 . In their study, Ghosh et al. (2021) stated that standardization of the patient handover process and improvement of the nursing shift handover process are effective in terms of patient satisfaction and acceptance of health care professionals. Insufficient information transfer and communication problems in the shift handover lead to medical errors and threaten patient safety. The higher average score in the shift handover, especially in the quality of information sub-scale, is a desirable outcome in terms of ensuring and maintaining patient safety.

There was no statistically significant difference in the Handover Evaluation Scale total score average of nurses in terms of personal and professional characteristics ($p > 0.05$). In their study, Tuna and Dalli (2018a) found that female nurses had statistically higher mean scores in the Handover Evaluation Scale, and reported that there was no difference between the other variables. They attributed this difference to the fact that female nurses paid more attention to the shift handover. The fact that there was no difference between the genders in our study suggested that all nurses paid the necessary attention to the effectiveness of shift handover. The shift handover procedure carried out verbally and in writing at the bedside of patients in the studied hospital, with the participation of all service nurses, suggests that there is an institution-specific shift handover in all units, and although the variables vary, there is no difference in shift handover.

Conclusion: As a result, although the shift handover efficiency of nurses was found to be a higher level in the study, it is obvious that developing standard forms for shift handover is important in order to ensure and maintain patient safety. It is important that adequate, appropriate, and accurate information is provided by nurses with the use of correct communication techniques and standard shift handover tools, as well as the active participation of nurses in this activity. It is important to adopt the importance of handover to nurses who perform shift handover, use the right communication techniques, and provide the necessary in-service training to nurses working in

all units where shift handover is performed. Determining the variables that directly or indirectly affect shift handover and making the necessary arrangements in this regard are important for the effectiveness of handover. There is a need for research in this field that will contribute to the literature.

Limitations: The fact that the study was conducted with nurses who performed handover in the clinics of a single hospital during the COVID-19 pandemic process is the limitation of the study.

Acknowledgments: We are grateful to the nurses who participated in this study.

References

- Ahmed, J., Mehmood, S., Rehman, S., Ilyas, C., & Khan, L.U. (2012). Impact of a structured template and staff training on compliance and quality of clinical handover. *International Journal of Surgery*, 10 (9), 571-574.
- Alrajhi, K., & Alsaawi, A. (2019). Developing an emergency medicine handoff tool: an electronic Delphi approach. *International Journal of Emergency Medicine*, 12 (1), 37.
- Australian Commission on Safety and Quality in Health Care. The OSSIE Guide to Clinical Handover Improvement. Sydney 2010, ACSQHC (Accessed: 15 February, 2022).
- Chung, J.Y.S., Li, W.H.C., Ho, L.L.K., Cheung, A.T., & Chung, J.O.K. (2021). Newly graduate nurse perception and experience of clinical handover. *Nurse Educ Today*, 97, 104693.
- Ghosh, S., Ramamoorthy, L., & Pottakat, B. (2021). Impact of Structured Clinical Handover Protocol on Communication and Patient Satisfaction. *J Patient Exp.*, 8, 2374373521997733.
- Hada, A., & Coyer, F. (2021). Shift-to-shift nursing handover interventions associated with improved inpatient outcomes-Falls, pressure injuries and medication administration errors: An integrative review. *Nurs Health Sci.*, 23 (2), 337-351.
- Hada, A., Jones, L.V., Jack, L., & Coyer, F. (2021). Translating evidence-based nursing clinical handover practice in an acute care setting: A quasi-experimental study. *Nursing and Health Sciences*, 23 (1), 1-11. <https://doi.org/10.1111/nhs.12836>
- Leung, W.I., Emery, C., & Egan, R. (2021). Improving interprofessional handover on labor and delivery: A needs assessment study. *J Interprof Care*, 1-7.
- Losfeld, X., Istars, L., Schoonvaere, Q., Vergnion, M., & Bergs, J. (2021). Impact of a blended curriculum on nursing handover quality: a quality improvement project. *BMJ Open Qual.*, 10 (1), e001024.
- Moore, S.M. (2012). The European HANDOVER project: the role of nursing. *BMJ Qual Saf.*, 21 Suppl 1, 6-8.
- O'Connell, B., Ockerby, C., & Hawkins, M. (2014). Construct validity and reliability of the handover evaluation scale. *Journal of Clinical Nursing*, 23 (3-4), 560-570.
- Pothier, D., Monteiro, P., Mooktiar, M., & Shaw, A. (2005). Pilot study to show the loss of important data in nursing handover. *Br J Nurs.*, 14 (20), 1090-1093.
- Raeisi, A., Rarani, M.A., & Soltani, F. (2019). Challenges of patient handover process in healthcare services: A systematic review. *J Educ Health Promot.*, 8, 1-6.
- Smeulders, M., Lucas, C., & Vermeulen, H. (2014). Effectiveness of Different Nursing Handover Styles for Ensuring Continuity of Information in Hospitalised Patients. *Cochrane Database of Systematic Reviews*, 6, 1-27.
- Taskiran, N., & Sari, D. (2017). An Important Problem for Patient Safety: Nursing Handover. *Journal of Education and Research in Nursing*, 14 (1), 93-97.
- Timmerman, J., Sitzler, V., Eusebio, R., Reavis, K., & Marder, L. (2021). Nursing Handover: A Content Analysis of Nurses' Handwritten Notes. *West J Nurs Res.*, 43 (7), 631-639.
- Tugrul, E., & Sahbaz, M. (2021). Nurses' Practice and Opinions About Nursing Handover. *Journal of Adnan Menderes University Health Sciences Faculty*, 5 (1), 13-25.
- Tuna, R., & Dalli, B. (2018a). Assessment of handover efficiency of intensive care nurses using the checklist. *International Refereed Journal of Nursing Researches*, 14, 44-68.
- Tuna, R., & Dalli, B. (2018b). Nurses' handover effectiveness and related variables. *ACU Health Science Journal*, 9 (4), 432-437.
- Tuna, R., & Dalli, B. (2019). The Turkish Version of the Handover Evaluation Scale: A Validity and Reliability Study. *International Journal of Nursing Practice*, 25 (6), 12787.
- Wang, X.L., He, M., & Feng, Y. (2021). Handover Patterns in the PACU: A Review of the Literature. *J Perianesth Nurs.*, 36 (2), 136-141.
- Welsh, C.A., Flanagan, M.E., & Ebright, P. (2010). Barriers and facilitators to nursing handoffs: Recommendations for redesign. *Nurs Outlook*, 58 (3), 148-154.