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ORIGINAL ARTICLE

Effects of an specific methodology (I Pass the Baton) on quality of handoff information among Nurses: A comparative study

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KEYWORDS
Nursing handoff;
Quality improvement;
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Abstract
Aim: The aim of this study was to investigate the effect of applying I Pass the Baton (IPB) on the quality of handoff among nurses.
Method: The present study was a quasi-experimental study. All nurses of the internal wards of Sanandaj educational hospitals, Kurdistan Province, Iran were selected by census method and randomly assigned to intervention ($n = 34$) and control ($n = 31$) groups. Handoff quality was measured by self-report and observation methods. The intervention included a face-to-face training session, training on how to use the IPB, inserting the IPB chart into the patient file, training leaflet, and installing a poster in the ward. The Situation, Background, Assessment, Recommendation (SBAR) was used according to routine practice in the control group. Descriptive and inferential tests were applied to analyze the data using SPSS-16.
Results: The mean score of handoff quality was 82.61 ± 12.77 and 107.11 ± 7.97 before and after the intervention in the intervention group ($p < 0.05$) and 89.00 ± 0.34 and 85.64 ± 19.19 before and after the intervention in the control group, respectively ($p = 0.91$). There was a statistically significant difference between the two groups after the intervention ($p < 0.05$). Implementation of the training program and the IPB tool improved the handoff quality in terms of interaction and support, patient involvement, information quality, and efficiency.
Conclusions: The IPB has various indicators of patient participation and includes the criteria needed for patient evaluation. Therefore, it can be used to handoff a wide range of patients in the internal ward.

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PALABRAS CLAVE
Traspaso de información enfermera;
Mejora de la calidad;
I Pass the Baton (pasar el testigo);
SBAR

Efectos de una metodología específica (I Pass the Baton) en la calidad del traspaso de información entre las enfermeras: estudio comparativo

Resumen
Objetivo: El objetivo de este estudio fue investigar el efecto de aplicar el método ''I Pass the Baton – IPB'' (pasar el testigo) en la calidad del traspaso entre enfermeras.
Método: El presente estudio fue cuasi-experimental. Se seleccionó a todas las enfermeras de las plantas de medicina interna de los hospitales educativos Sanandaj, de la provincia de Kurdistán, en Irán, mediante el método de censo, asignándose aleatoriamente a los grupos de intervención ($n = 34$) y control ($n = 31$). La calidad del traspaso se medió mediante los métodos de autoreporte y observación. La intervención incluyó una sesión de formación presencial, formación sobre cómo usar el método IPB, insertar el cuadro IPB en el expediente del paciente, folleto de formación, y colocación de un póster en la planta. Se utilizó la técnica SBAR (Situation, Background, Assessment, Recommendation) de acuerdo con la práctica rutinaria en el grupo control. Se realizaron pruebas descriptivas e inferenciales para analizar los datos, utilizando SPSS-16.
Resultados: La puntuación media de la calidad del traspaso fue de $82{,}61 \pm 12{,}77$ y $107{,}11 \pm 7{,}97$ antes y después de la intervención en el grupo intervención ($p < 0{,}05$), y de $89 \pm 0{,}34$ y $85{,}64 \pm 19{,}19$ antes y después de la intervención en el grupo control, respectivamente ($p = 0{,}91$). Se produjo una diferencia estadísticamente significativa entre los dos grupos tras la intervención ($p < 0{,}05$). La implementación del programa formativo y la herramienta IPB mejoraron la calidad del traspaso en términos de interacción y soporte, implicación del paciente, calidad de la información, y eficiencia.
Conclusiones: El IPB tiene diversos indicadores de participación del paciente e incluye los criterios necesarios para la evaluación del mismo. Por tanto, puede utilizarse para traspasar un rango amplio de pacientes en la planta de medicina interna.

Introduction

Communication is the core of nursing care.[1] One of the most prominent communication processes among nurses is handoff, which is also called shift report, handover, nursing report, change of shift report, signoff, and inter-shift report.[2] In hospitals, patient care is transferred from one nurse to another every day.[1] This procedure is usually performed two to three times a day for each patient, with each nurse spending 38% of his/her working hours delivering the patients.[3] Handoff is therefore one of the most common activities among nurses and its proper and standard practice provides continuous and safe care.[4]

Lack of effective communication by nurses during handoffs leads to patient-safety related problems such as inaccurate information transfer, lack of opportunity to ask questions about patients, misinterpretation of information, omission of information, misleading information and serious complications.[5,6] Handoff should therefore be precise, complete, comprehensive, relevant, and targeted.[7] Maxon et al. (2012) identified communication problems as the biggest barrier to effective handoff and found that one of the key factors in effective delivery was the use of standard strategies and the involvement of patients and their families in handoff.[5] Due to the constant need for nursing care, the nurse responsible for patient care changes at least 2–3 times a day; therefore, it is advisable to have a uniform pattern so as to not only save time, but also to make sure the patient care plan is complete, continuous and updated before transfer to the next nurse.[2] Therefore, the Joint Commission (JC) introduced the standard handoff method in 2006 to achieve the primary goal of patient safety and improving communication effectiveness among carers.[8]

According to nurses participating in a study by Berg et al. (2018), the use of a handoff tool increased the patients' interaction, understanding, and support.[9] In a study by Baghaei et al. (2015), the use of a standard shift delivery guide was effective on the patients' views of the communicative dimension of effective nursing care quality.[10]

Various tools have been introduced as handoff guides including Purpose, Picture, Plan, Part (4 Ps); Situation, Background, Assessment, Recommendation (SBAR); Acknowledge of patient, Introduce yourself, Duration of procedure, Explanation, Thank you (AIDET); Patient, Plan, Purpose of plan, Problems, Precautions (5Ps); Greeting, Respectful listening, Review, Recommend, Reward (GRRRR); Subjective information, Objective information, Assessment, Plan (SOAP); Introduction, Patient, Assessment, Situation, Safety concern (IPASS); Situation, Task, Intent, Concern, Calibrate (STICC); Situation, History, Assessment, Recommendation, Question (SHARQ); Situation, History, Assessment, Request, Evaluate, Document (SHARED); and Introduction, Patient,

Assessment, Situation, Safety concern, Background, Actions, Timing, Ownership, Next (I Pass the Baton). Despite the suggestion of using standard tools, evidence indicates that the use of any tool may not be appropriate in every situation.[11]

I Pass the Baton is a mnemonic for Introduction (the nurse introduces him/herself and his/her duties), Patient (the nurses discuss the patient's profile), Assessment, Situation, Safety concerns, Background (discussing the patient's background and history), Actions, Timing, Ownership, and Next. It is a technique for understanding simple and complex information.[12] This tool was first introduced as I Pass, which later changed to I Pass the Baton in 2009. One study reported that the use of the I Pass the Baton tool reduced the hazards related to venous injections by 85%, pressure ulcer by 42%, and the risk of falls by 32%.[13]

In the context of this study, the Iranian Ministry of Health and Medical Education introduced the SBAR to all wards of educational hospitals. However, it seems to be ineffective in some wards including the internal ward, which covers a wide range of patients. Therefore, due to the importance of handoff and the necessity of upgrading the present situation, this study was conducted to determine the effect of applying I Pass the Baton on the quality of handoff among nurses and to compare it with the SBAR in internal wards.

Methods

Design

A quasi-experimental study was conducted from July to September 2019.

Participants and setting

The study population included all eligible nurses in the internal ward selected using the census method ($n = 73$). Nurses working in inpatient wards who consented to participation in the study, had at least six months of work experience, and held a nursing diploma or higher were included in the study. The nurses that refused to participate in the training session, did not use the IPB during handoff, were transferred to another ward during the study, took a leave of more than one week during the study, were reluctant to continue the study, or did not complete all sections of the questionnaire were excluded from the study.

The research environment consisted of two public educational hospitals, one of which was randomly selected as the intervention group and the other as the control group using the coin-toss method. Of 73 nurses in the two wards, 6 nurses had less than six months of work experience and 67 met the inclusion criteria all of whom volunteered to participate in the study. Finally, of 67 nurses, 34 nurses working in the internal wards of Tohid Hospital (intervention group) and 33 nurses working in the internal wards of Kowsar Hospital (control group) were included in the study. Two nurses in the control group were excluded from the study due to the ward change during the study. Therefore, 34 nurses in the intervention and 31 nurses in the control completed the study.

Instrument

Handoff quality was assessed using self-report and observation before and one month after the intervention. A two-part questionnaire, including demographic characteristics and the Handoff Evaluation Scale (HES), and a handoff observation tool were used for data collection.

The HES questionnaire contains 18 questions in four domains including quality of information (Questions 1–7), interaction and support (Questions 8–12), efficiency (Questions 13–15), and patient involvement (Questions 16–18). It is scored in the Likert scale from Strongly Agree (seven points) to Strongly Disagree (one point). The questions addressing patient involvement (questions 16–18) are inversely scored. After obtaining permission from the designer of the questionnaire, it was translated to Persian and its content and face validity were confirmed by 10 nursing instructors. In order to assess its reliability, the questionnaire was given to 15 nurses working in the general wards and its reliability was evaluated using the Cronbach's alpha (=0.86).

After studying the available tools,[12,14] a researcher-made instrument was designed to observe the quality of handoff. The instrument consisted of nine questions rated on a six-point Likert scale from poor to excellent. In order to determine the validity of the observation instrument, 10 nursing instructors approved its content validity, and its reliability was assessed using inter-rater reliability. For this purpose, the main researcher and one of the research team members completed the tool in a similar situation and the answers were compared. This process continued until a similar interpretation of a situation was achieved. The researcher was present in the wards for one week to desensitize the nurses to his presence in the wards (intervention and control groups) as a member of the nursing group. The observation instrument was completed using the non-participant method by the main researcher for the delivery nurse. At least one handoff from each nurse was considered during handing over the morning shift to the evening shift, the evening shift to the night shift, and the night shift to the morning shift in each room. Consequently the mean score of the three shifts for each nurse was obtained. A higher score indicated a higher quality of handoff.

Intervention

In the intervention group, a training session was held for 60 min in the sub-groups of 3–5 persons. The training session included discussions on general handoff problems, incomplete handoff issues such as handing over incomplete documentation and information to the next shift, errors caused by exchange failures, benefits of applying standards in handoff, and an overview of the existing communication instruments with an emphasis on the I Pass the Baton, its use, and its effect on reducing errors and improving the quality of nursing care. Posters designed based on IPB were installed in wards, educational leaflets on how to use the IPB were distributed, and the IPB chart was included in the patients' records. During this training course, the nurses were asked to use the instrument in the patient record for one month in their handoff.

The nurses in the control group did not receive any training for the patient handoff during the one-month intervention period and routinely used the SBAR instrument based on the instructions of the Iranian Ministry of Health and Medical Education. The SBAR is a mnemonic for Situation (discussing the patient's current status), Background (discussing the patient's history), Assessment and Recommendation (a recommendation for what needs to be completed, which is simple guidance for transferring patient information).

Data analysis

SPSS 16 was used for data analysis. Chi-square or Fisher exact test was used to compare qualitative demographic characteristics between the two groups. In case of a normal distribution, independent *t*-test was used to compare quantitative demographic characteristics; otherwise, the non-parametric Mann–Whitney test was applied. Wilcoxon nonparametric test was used to compare the quality of handoff before and after the intervention in each group and Mann–Whitney nonparametric test was used to compare the quality of handoff between the two groups. The significance level was set at 5%.

Ethical considerations

The present study was the result of a Master's thesis in Medical Surgical Nursing approved by the Research Council (no. 1397.383) as well as the Ethics Committee of Kurdistan University of Medical Sciences (IR.MUK.REC.1397.383). Ethical considerations included obtaining a letter of introduction to enter the research setting and explaining the aims of the study to participants. All participants in the study provided informed written consent and were assured of data confidentiality. The participants were free to withdraw from the study at any time during the study. Attention was paid to respect the privacy of the patients and not interrupt the nurses' work during observations.

Results

Sixty-five nurses in the intervention ($n = 34$) and control ($n = 31$) groups completed the study. Twenty-six nurses in the intervention group (76.47%) and 21 nurses in the control group (67.74%) were female. The mean age of the subjects was 29.38 ± 6.21 years in the intervention group and 30.25 ± 5.09 years in the control group. Intervention and control groups were homogeneous in terms of variables including age ($p = 0.26$), sex ($p = 0.43$), marital status ($p = 0.21$), having children ($p = 0.85$), place of residence ($p = 0.46$), educational background ($p = 0.22$), history of attending a handoff workshop ($p = 0.18$) and shift work ($p = 0.51$). The two groups were not homogeneous in terms of work experience, internal ward work experience, and shift work hours ($p > 0.05$) (Table 1).

The mean score of handoff quality using the self-report method was 82.61 ± 12.77 before intervention and 107.11 ± 7.97 after the intervention in the intervention group, indicating a significant different ($p < 0.05$). The mean score of handoff quality was 89.00 ± 10.34 before the intervention and 85.64 ± 19.19 after the intervention in the control group, indicating a lack of a significant difference ($p = 0.91$). There was a statistically significant difference between the two groups after the intervention ($p < 0.05$). The mean scores of handoff domains (quality of information, interaction and support, efficacy and patient involvement) were significantly different before and after the intervention in the intervention group ($p < 0.05$). In addition, there was a statistically significant difference in all handoff domains between the two groups after the intervention ($p < 0.05$) (Table 2).

The mean score of the quality of handoff measured by observation method increased from 63.38 ± 13.37 before the intervention to 93.64 ± 13.89 after the intervention in the intervention group ($p < 0.05$). In the control group, the mean observation score was $71.77 + 14.95$ before and $72.76 + 13.09$ after the intervention, which showed no significant difference ($p = 0.36$). There was a statistically significant difference in the quality of handoff between the two groups ($p < 0.05$) using observation before and after the intervention (Table 3).

Discussion

In the present study, an increase was found in the total score of handoff quality as well as the scores of four domains of information quality, interaction and support, efficiency and patient involvement in the intervention group. Since no significant difference was found in the control group, the increased quality of handoff could be attributed to the use of IPB.

Quality of information, a domain of HES, increased in the intervention group. This increase can be attributed to the researcher being present at the bedside answering the nurses' questions, nurses attending a training course, and using the IPB. In a study by Calleja et al. (2012), poor quality of information, incomplete information and misinterpretation of information were common handoff problems.[6] A study by Toubaei et al. (2007) found that the greatest barriers to handoff were inadequate information and lack of knowledge, and that increasing the quality of the presented information increased the nurses' confidence, motivation, and performance.[15] Barrett et al (2017) used SBAR in the control group and the IPB in the intervention group. The results showed that the IPB combined information and corrected any misunderstandings, which were crucial to enhancing the quality of information.[16] In the background section of the IPB, all patient systems are examined resulting in complete, comprehensive, and quality patient information.

The use of IPB also made a significant difference in the domain of interaction and support. However, the two groups were heterogeneous before the intervention and the score of nurses' interaction was higher in the control group, which could be due to more work experience of nurses, fewer patients, and fewer shifts in this group. After the intervention, nurses' interaction and support increased in the intervention group, which could due to the use of IPB.

The IPB items raise questions during handoff, which results in clarifying the patient's information and increas-

Table 1 Demographic characteristics of the participants.

Variable	Intervention group ($n = 34$)	Control Group ($n = 31$)	p-value
Age[*] $M \pm SD$	29.38 ± 6.21	30.25 ± 5.09	0.26
Work experience[*] $M \pm SD$	52.70 ± 55.41	83.93 ± 68.11	0.005
Internal ward work Experience[*] $M \pm SD$	25.61 ± 39.24	37.16 ± 45.34	0.019
Work hours[**] $M \pm SD$	219.38 ± 35.52	191.03 ± 29.98	0.001
Sex[***] *(N, %)*			
Female	26 (76.47)	21 (67.74)	0.43
Male	8 (23.53)	10 (32.26)	
Place of residence[****] *(N, %)*			
Native	31 (91.18)	26 (83.87)	0.46
Non-native	3 (8.82)	5 (16.13)	
Educational background[****] *(N, %)*			
Diploma	2 (5.88)	0 (0.00)	0.22
Bachelor	31 (91.18)	27 (87.10)	
Masters	1 (2.94)	3 (9.68)	
PhD	0 (0.00)	1 (3.23)	
History of attending a handoff workshop[***] *(N, %)*			
Yes	9 (26.47)	13(41.94)	0.18
No	25 (73.53)	18 (58.06)	
Shift work[****] *(N, %)*			
Fixed	7 (20.59)	4 (12.90)	0.516
Rotation	27 (79.41)	27 (87.10)	

[*] Mann–Whitney test.
[**] *t*-test.
[***] Chi square test.
[****] Fisher test.

Table 2 Comparison of quality of handoff (self-report) within and between groups before and after the intervention.

Variable	Group	Before ($n = 67$)	After ($n = 65$)	p[**]
Quality of information	Intervention	34.94 ± 6.80	42.32 ± 3.30	0.000
	Control	38.70 ± 5.27	37.32 ± 8.61	0.929
	p[*]	0.055	0.001	
Interaction and support	Intervention	20.97 ± 6.00	30.11 ± 3.03	0.000
	Control	34.58 ± 5.29	23.09 ± 7.54	0.323
	p[*]	0.010	0.000	
Efficiency	Intervention	11.20 ± 2.92	16.73 ± 2.93	0.000
	Control	9.64 ± 3.36	10.09 ± 3.87	0.099
	p[*]	0.073	0.000	
Patient involvement	Intervention	15.5 ± 2.76	17.94 ± 1.93	0.000
	Control	16.06 ± 3.06	15.12 ± 3.93	0.125
	p[*]	0.398	0.000	
Total	Intervention	82.61 ± 12.77	107.11 ± 7.97	0.000
	Control	89.00 ± 0.34	85.64 ± 19.19	0.914
	p[*]	0.046	0.000	

[*] Mann–Whitney test.
[**] Wilcoxon test.

ing the interaction and support among nurses.[17] Despite the use of the SBAR in the control group, recent evidence suggests that it is simple and inadequate to provide all patient information.[18] The basic information of the patient is fully provided in the IPB ''assessment'' section and all abnormalities that require follow up are listed in the IPB ''safety concerns'' section. This can lead to the active participation of nurses in the information exchange.

As for the efficiency domain, the results also showed the impact of using IPB. A study investigating the effect of IPB on handoff in a pediatric ward found a reduction in the duration of handoff. The IPB, in addition to encouraging the

Table 3 Comparison of quality of handoff (observation) within and between groups before and after the intervention.

Questionnaire	Group	Before ($n = 67$)	After ($n = 65$)	p^{**}
Quality of handoff	Intervention	63.38 ± 13.37	93.64 ± 13.89	0.000
	Control	71.77 ± 14.95	72.76 ± 13.09	0.362
	p^{*}	0.017	0.000	

* Mann–Whitney test.
** Wilcoxon test.

receiver to ask about patient information, also allows the sender to share all information with another nurse and provide more effective care.[19] In the various sections of the IPB, all patient-related issues are mentioned, and even in the ''next'' section of the care plan, the IPB lists all the possible measures that need to be taken for the patient, which improves its efficiency. On the other hand, considering the age range of the majority of the patients admitted to internal wards and the multi-systemic involvement of these patients, it seems that the use of IPB in this ward can help to obtain all of the required information about these patients.

Patient involvement also increased after the intervention in the intervention group, which is in line with the results of studies by Maxon et al. (2012) and Tidol et al. (2011).[5,20] Increased patient involvement during the handoff can lead to greater understanding of collaboration among nurses, increased responsibility for nurses, patients commenting on their care plan, saving time and ultimately satisfaction for the nursing staff and patients.[21] Other tools including the SBAR used in the control group in this study lack a patient involvement index and tend to simplify the handoff process,[22] whereas the IPB was effective in increasing patient involvement during the handoff. As for the ownership section, all of the actions and tasks were explained to the patients. Raines et al. (2007) found that the IPB not only increased nurses' satisfaction but also increased the patients' satisfaction.[23] Similarly, Kassean et al. reported that 96% of the patients were satisfied with this handoff process.[24] However, in a study by Caruzo et al. (2007), some nurses stated that talking to patients was difficult and opposed patient participation in handoff.[25] Therefore, it is recommended that the IPB be applied and training be provided on how to use it to promote patient involvement during handoff.

In general, the quality of handoff increased after the intervention in the intervention group. The IPB criteria increase interaction and support among nurses, improve the patients' participation during handoff, provide through and precise information on the patient's status, and offer an opportunity for questions and answers for the sender and receiver nurses during handoff. Although the IPB improved handoff quality compared to the SBAR, it should be noted that IPB needs more time to complete.

The results of the study showed a significant difference in the quality of handoff after the intervention in the intervention group using the observation method. The two groups were not homogeneous before the intervention and the quality of handoff was higher in the control group before the intervention. This may be due to the observational items related to the individual characteristics of the nurses during handoff (clinical judgment, communication skills, and professional competence). This difference could be because the nurses were more experienced in the control group and had more experience in the internal ward. Overall, the quality of handoff increased after the IPB was applied. The IPB, by providing a summary of the patient's status, a list of measures, and possible scheduling for the receivers,[11] also allows the senders and the receivers to communicate and clarify any misunderstandings.[18] This feedback is essential during handoff and increases the nurses' confidence, communication and professional skills. Handoff quality observation was performed to complete the data collection process and to ensure that the quality of handoff was properly assessed.

In the present study, not only the handoff tool was changed, but also there was a period of training and information for the intervention group. Therefore, the difference between the two groups could due to training and not only the tool that was applied. Therefore, as a limitation, it was difficult to evaluate whether the clear effect was due to the change in the handoff tool or the training process.

In the present study, it was not possible to select a random sample of individuals. Despite random allocation of each ward to intervention or control groups, the two groups were not homogenous in terms of work experience, internal ward work experience, and shift work hours. In addition, the findings may be affected by the short period of the intervention. Furthermore, the presence of the researcher and his direct observation may have influenced the behavior of the nurses. To eliminate this effect, the researcher was present in the wards one week prior to observations. It is recommended to conduct the observation imperceptibly in other studies. It is also recommended to study the handoff among other health care staff including physicians, residents, and nursing assistants and to compare the IPB with other handoff instruments.

The implementation of IPB during handoff improved the handoff quality in terms of interaction and support, patient involvement, quality of information, and efficiency. The IPB compared to the SBAR contains the criteria needed to evaluate the patient in the internal ward. It is recommended to use the IPB in the handoff of patients in the surgical-internal wards.

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Author contribution

SMN: concept/design, data collection, data analysis/interpretation, drafting article, critical revision of article, approval of article.

MF: concept/design, data collection, data analysis/interpretation, drafting article.

BN: concept/design, data collection, statically data analysis/interpretation, drafting article.

SV: concept/design, data collection, data analysis/interpretation, drafting article, critical revision of article, approval of article.

Conflict of interest

The authors declare that there is no conflict of interest.

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References

1. Joint Commission introduces new, customized tool to improve handoff communications [Internet]; 2013.
2. Cohen MD, Hilligoss PB. The published literature on handoffs in hospitals: deficiencies identified in an extensive review. Qual Saf Health Care. 2011;19:493–7.
3. Superville JG. Standardizing nurse-to-nurse patient handoffs in a correctional healthcare setting: a quality improvement project to improve end-of-shift nurse-to-nurse communication using the SBAR I-5 handoff bundle. The University of North Carolina at Chapel Hill; 2017.
4. Wakefield DS RR, Brandt J, Tregnago M. Making the transition to nursing bedside shift reports. Jt Comm J Qual Patient Saf. 2012;38:243–53.
5. Maxson PMDK, Wrobleski DM, Foss DM. Bedside nurse-to-nurse handoff promotes patient safety. Medsurg Nurs. 2012;21:140–4.
6. Calleja PAL, Cooke ML. Information transfer for multi-trauma patients on discharge from the emergency department: mixed-method narrative review. J Adv Nurs. 2011;67:4–18.
7. Rushton CH. Ethics of nursing shift report. AACN Adv Crit Care. 2010;21:380–4.
8. Friesen MAWS, Byers JF. Handoffs: implications for nurses. Center for American Nurses Board of Directors; 2009. p. 23.
9. Bergs J, Lambrechts F, Mulleneers I, Lenaerts K, Hauquier C, Proesmans G, et al. A tailored intervention to improving the quality of intrahospital nursing handover. Int Emerg Nurs. 2018;36:7–15.
10. Baghaei R, PourRashidi S, Khalkhali H. The effect of using SBAR model in nursing handoff on communication dimension of nursing care from the patients view. Nurs Midwifery J. 2016;14:562–70.
11. Starmer AJ, Spector N, Srivastava R, Allen AD, Landrigan CP, Sectish TC, et al. I-Pass a mnemonic to standardize verbal handoffs. Pediatrics. 2012;129:201–4.
12. Starmer A, Landrigan C, Srivastava R, Wilson KM, Allen A, Mahant S, et al. I-PASS handoff curriculum: faculty observation tools. MedEdPORTAL. 2013;9:70–95.
13. Thomas L, Donohue-Porter P. Blending evidence and innovation: improving intershift handoffs in a multihospital setting. J Nurs Care Qual. 2012;27:116–24.
14. Ferrara P, Terzoni S, Davì S, Bisesti A, Destrebecq A. A tool for assessing the quality of nursing handovers: a validation study. Br J Nurs. 2017;26:882–8.
15. Toubaei S, Sahraeian A. Burnut and job satisfaction of nurses working in internal, surgery, psychiatry burn and burn wards. Horizon Med Sci. 2007;12:40–5.
16. Barrett M, Turer D, Stoll H, Hughes DT, Sandhu G. In search of a resident-centered handoff tool: discovering the complexity of transitions of care. Am J Surg. 2017;214:956–61.
17. O'Brien CM, Flanagan M, Bergman AA, Ebright PR, Frankel RM. Anybody on this list that you're more worried about? Qualitative analysis exploring the functions of questions during end of shift handoffs. BMJ Qual Saf. 2016;25:76–83.
18. Young JQ, Wachter R, Ten Cate O, O'Sullivan PS, Irby DM. Advancing the next generation of handover research and practice with cognitive load theory. BMJ Qual Saf. 2016;25:66–70.
19. Sheth S, McCarthy E, Kippsb AK, Wood M, Roth SJ, Sharek PJ, et al. Changes in efficiency and safety culture after integration of an I-PASS-supported handoff process. Pediatrics. 2016;137:e20150166.
20. Tidwell T, Edwards J, Snider E, Lindsey C, Reed A, Scroggins I, et al. A nursing pilot study on bedside reporting to promote best practice and patient/family-centered care. J Neurosci Nurs. 2011;43:E1–5.
21. Kazemi MSA, Joubary L, Vakili MA. The effect of delivery nursing shift at bedside with patients partnership on patients satisfaction andnurses satisfaction, clinical trial. Quasi-experimental study. The J Urmia Nurs Midwifery Fac. 2016;14:426–36.
22. Catchpole K, Russ S. The problem with checklists. BMJ Qual Saf. 2015;24:545–9.
23. Raines M, Mull A. Give it to me: the development of a tool for shift change report in a level I trauma center. J Emerg Nurs. 2007;33:358–60.
24. Kassean HK, Jagoo ZB. managing change in the nursing handover from traditional to bedside handover – a case study frommaritius. BMC Nurs. 2005;4:1–6.
25. Caruso EM. The evolution of nurse-to-nurse bedside report on a medical-surgical cardiology unit. Medsurg Nurs. 2007;16:17–22.