NURSES' LEADERSHIP STYLES IN THE ICU: ASSOCIATION WITH PERSONAL AND PROFESSIONAL PROFILE AND WORKLOAD[1]

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This study aims to explore the association between nurses' leadership styles and personal and professional nursing profile and workload. The sample consisted of seven nurses and seven nursing technicians who were grouped into pairs. At the end of three months, nurses were queried regarding what leadership style would be adopted when the nursing technician under their evaluation delivered care to patients admitted to the ICU. Relevant data was analyzed by applying descriptive statistics, Tukey's multiple comparison test and Student's t-test (p< 0.05). Nursing workload reached 80.1% on average. The personal and professional profile variables did not show any relation with the leadership styles chosen by nurses (p>0.05). The determine, persuade, and share leadership styles prevailed. However, whenever the nursing workload peaked, the determine and persuade styles were used (p<0.05).

DESCRIPTORS: nursing; leadership; workload; intensive care

ESTILOS DE LIDERAZGO DE ENFERMEROS EN UNA UNIDAD DE TERAPIA INTENSIVA: ASOCIACIÓN CON EL PERFIL PERSONAL, PROFESIONAL Y CON LA CARGA DE TRABAJO

Este estudio tuvo como objetivos verificar a relación que existe entre los estilos de liderazgo de los enfermeros con el perfil personal, profesional y carga de trabajo de enfermería. La muestra fue constituida por siete enfermeros y siete técnicos de enfermería que formaron parejas. Durante tres meses los enfermeros fueron cuestionados sobre cual sería el estilo de liderazgo adoptado cuando el técnico de enfermería, bajo su evaluación, prestase cuidados a los pacientes admitidos en la Unidad de Terapia Intensiva. Los datos fueron analizados aplicándose estadística descriptiva, el método de comparaciones múltiples de Tukey y la prueba t de Student (<0,05). La carga de trabajo de enfermería alcanzó el valor promedio de 80,1%. Las variables de perfil personal y profesional no presentaron relación con los estilos de liderazgo escogidos por los enfermeros (p>0,05). Los estilos de liderazgo: determinar, persuadir y compartir fueron los predominantes, sin embargo, cuando la carga de trabajo de enfermería era mayor, se observaron los estilos determinar y persuadir (p<0,05).

DESCRIPTORES: enfermería; liderazgo; carga de trabajo; cuidados intensivos

ESTILOS DE LIDERANÇA DE ENFERMEIROS EM UNIDADE DE TERAPIA INTENSIVA: ASSOCIAÇÃO COM PERFIL PESSOAL, PROFISSIONAL E CARGA DE TRABALHO

Este estudo teve como objetivos verificar a relação dos estilos de liderança de enfermeiros com perfil pessoal e profissional e carga de trabalho de enfermagem. A amostra foi constituída por sete enfermeiros e sete técnicos de enfermagem que formaram duplas. Durante três meses os enfermeiros foram questionados sobre qual estilo de liderança seria adotado quando o técnico de enfermagem, sob sua avaliação, prestasse cuidados aos pacientes admitidos na Unidade de Terapia Intensiva. Os dados foram analisados aplicando-se estatística descritiva, o método de comparações múltiplas de Tukey e o teste t de Student (<0,05). A carga de trabalho de enfermagem alcançou valor médio de 80,1%. As variáveis de perfil pessoal e profissional não apresentaram relação com os estilos de liderança escolhidos pelos enfermeiros (p>0,05). Os estilos de liderança determinar, persuadir e compartilhar foram os predominantes, entretanto, quando a carga de trabalho de enfermagem era maior, observou-se os estilos determinar e persuadir (p<0,05).

DESCRITORES: enfermagem; liderança; carga de trabalho; cuidados intensivos

INTRODUCTION

*I*ntensive Care Units (ICUs), intended for critically ill patients who need specialized therapy and constant surveillance to reestablish their health, demand skills to manage physical, material, and human resources from nurses. In this context, leadership is one of the managerial competencies required.

In the ICU, despite the different patient care complexity levels, each nursing team member has a particular professional profile. Some can be newly graduated and have little health care experience, some have practical abilities but are still unprepared to carry out complex nursing actions, while other professionals are fully capable of performing the prescribed interventions. In view of these differences, and to ensure that the delivered health care meets the ICU goals, nurses should adapt their leadership style. In this context, situational leadership is considered as a possibility for the nurse to conduct his or her team's work.

Situational leadership is centered on the premise that there is no such thing as a single appropriate leadership style for each and every situation. In this approach, the leader's behavior in relation to subordinates in a specific task[1] is emphasized, i.e. it is founded on the interrelation between the leader's task behavior, his/her relationship behavior, and the subordinates' maturity[2].

The task behavior refers to the leader's act of telling people what, when, and how to do something. In other words, it means establishing and defining roles. The relationship behavior involves bilateral communication with a view to providing support and encouragement, which implies that the leader should listen to the collaborators carefully and support their efforts[2].

Subordinate maturity refers to people's capacity and willingness to direct their own attitudes. Two dimensions are considered: work maturity (capacity), which is centered on technical abilities, and psychological maturity (willingness), which indicates the motivation to do something. These two aspects should be considered only in relation to a specific task to be performed[2].

In a dynamic and interactive environment, such as the ICU, involving intensive nursing workload and different professional profiles, where decision-making must be swift and assertive, it is essential that nurses have leadership competence. Nevertheless, is there a strong tendency for leaders to perform instead of delegating actions? What nursing styles do ICU nurses use? Are leadership styles associated with the ICU nurse's personal and professional profile and workload?

The intention, herein, is to analyze the development of ICU leadership competence and the factors affecting its development, since studies using the theoretical framework of situational leadership have evaluated nurses' leadership styles[3]. Hence, the purpose of this study is to verify the association between nurses' leadership styles and their personal and professional profile and workload.

METHOD

This descriptive, cross-sectional and correlational study was performed in the General ICU of the Pain, Anesthesiology, and Intensive Care Class at Hospital São Paulo – Federal University of São Paulo - Escola Paulista de Medicina (*Paulista Medical School*) (UNIFESP/EPM). This ICU has 16 beds for clinical and (mostly) surgical patients.

The sample consisted of ICU nurses and nursing technicians, according to the following inclusion criteria: having worked in the ICU for at least six months, freely agreed to participate in the study, worked during the day due to the researcher's inability to collect data at night, and be present throughout the three-month data collection period, i.e., with no planned vacation, maternity/paternity leave, marriage, or sickness leave.

Data collection was performed from March 7 to June 7, 2005, after the project had been approved by the UNIFESP Research Ethics Committee.

The nurses who agreed to participate in the study were randomly assigned a member from the nursing technician team under their supervision and, with their agreement, formed a working pair.

Data regarding the personal (age and gender) and professional profile (time since graduation, time working at the institution and ICU, work shift, and contact with the leadership theme) were obtained from nurses and nursing technicians.

To quantify the ICU nursing workload, the Nursing Activities Score (NAS) was administered, considering that this instrument was translated to Portuguese and validated according to the reality of Brazilian ICUs[4]. It consists of 23 items that include, besides physiological variables, administrative and managerial tasks[5]. A total NAS score is obtained from the individual item scores, and it expresses the percentage of time spent by a nursing professional in direct care to critical patients in an ICU work shift[6].

The patient selection criteria for calculating the NAS were: to be hospitalized in ICU for at least 24 hours, to freely agree to participate in the study when their physiological condition permitted them to make that decision, to receive family permission for patients whose health conditions made it impossible for them to decide, and to be evaluated by every nurse in the sample within the first 24 hours in the ICU.

Twice a day, patients admitted to the ICU over the previous 24 hours were identified, the period in which the number of procedures and patient contacts is greater was determined[7] and NAS was administered. Following that, to obtain data about the nurses' leadership style, the following question was asked: "Considering this patient and the nursing technician under your evaluation, what leadership style would you use to instruct them in nursing care?". This same question was asked of the other pairs formed whenever a new patient was admitted.

Data treatment was performed using the situational leadership style classification and the level of maturity validated in a previous study[8], which include: determine (E1) – "explains his/her decision and closely supervises performance"; persuade (E2) – "explains his/her decisions and gives an opportunity for clarification"; sharing (E3) – "shares ideas and the decision-making process"; and delegate (E4) – "passes on the responsibility for the decisions and the implementation".

The maturity level of the subordinates was evaluated for the following nursing activities: monitoring and control, administering medication, performing hygiene procedures, care with drainage tubes, patient mobilization and positioning, and care with endotracheal tube or tracheotomy tube. It should be emphasized that these activities were chosen because they are more often performed by these nursing technicians in care for ICU patients. Work (capacity) and psychological (willingness)

maturity level classification can range from M1 to M4 (M1 little, M2 considerable, M3 plenty, and M4 completely), considering the phrases: this subordinate is capable (has the necessary knowledge and abilities); and this subordinate is willing (necessary self-confidence and dedication). The nurse was asked about the subordinate's level of maturity, considering the aforementioned nursing activities, on the first day used for data collection.

The data were analyzed using descriptive statistics and, to verify the association between the variables concerning leadership style, professional profile, and nursing work load, the Student t test was used, followed by Tukey's multiple comparisons method, with level of significance at $p < 0.05$.

RESULTS

Seven nurses (leaders) and seven nursing technicians requiring leadership to perform their duties (subordinates) participated in the study, composing seven pairs, four of which worked in the morning, and three in the afternoon.

Of the 14 professionals, 13 were women, with an average age of 25.2 years (min=20; max=30, and sd±2.8).

The average time since graduation from nursing school was 3.8 years (min=1.2; max=10 and sd±2.6). As for the time working at the institution, the average was 2.34 years (min=6 months; max=5.3 years, and sd ±1.6). The average time working in ICU was 2 years (min=six months; max=5 years, and sd±1.5).

All sample subjects reported learning about leadership in the undergraduate or technical nursing courses; four professionals also reported lectures, training courses, and other sources. Among the nurses, six had attended a specialization course in nursing, five in ICU care and one in management.

The workload, measured by administering the NAS for 87 patients admitted to ICU and evaluated by nurse within the first 24 hospitalization hours, revealed that, on average, 80.1% (min=62.4; max=101.8 and sd±7.98) of the pairs' work shift was dedicated to patient care.

Considering the 87 patients admitted during the data collection period, the nurses adopted leadership styles as presented in Table 1.

Table 1 – Nurses' leadership styles and subordinates' maturity. São Paulo, SP, 2005

Pairs	Leadership Styles				Subordinates' maturity	
	E1	E2	E3	E4	Capacity	Willingness
1	1	31	55	0	M2	M3
2	5	39	43	0	M2	M2
3	46	2	39	0	M2	M4
4	25	34	27	1	M3	M2
5	43	44	0	0	M1	M1
6	39	39	7	2	M3	M3
7	11	39	37	0	M3	M3

According to Table 1, nurses mostly used E2 and E3 (persuade and share), followed by S1 (determine) with their subordinates when performing the nursing activities established for the 87 patients hospitalized in the ICU. Most of the seven nursing technicians presented considerable and plenty of maturity (M2 and M3), for both capacity and willingness.

It should be noted that, in pair 5, the nurse used only the styles determine (E1) and persuade (E2) in view of the nursing technician's little (M1) capacity and willingness.

On the other hand, observing pair 3, it was found that, despite the nursing technician's considerable (M2) capacity and complete (M4) willingness, the prevalent leadership style was determine (E1). In addition, pairs 6 and 7, despite the subordinates having plenty (M3) of maturity for both capacity and willingness, styles E1 and E2 prevailed. This inconsistency could be due to the fact that these are young leaders and have little work experience. They acknowledge that their subordinates have the capacity and willingness to provide the nursing care, but they are unable to delegate the necessary actions. Nevertheless, this hypothesis should be tested with a larger sample.

Using Tukey's multiple comparison method, it was verified that there was no significant statistical association between the variables related to the personal and professional profile and the leadership styles when a team member was assessed ($p > 0.05$).

Repeated measures analysis was used for ordinal data and revealed that the pairs were statistically different when comparing the variables concerning personal and professional profiles ($p < 0.001$). Hence, the analysis of leadership style and nursing workload was done separately for each pair. The association between workload, mean NAS score, and leadership style could not be performed for each style (E1, E2, E3, and E4) due to the low frequency of some styles. To do this, for each pair, the patients were assigned to two groups: those who received care through leadership S1 or S2, and those who received care under leadership E3 or E4.

These data are presented in Table 2, considering the seven pairs.

Table 2 – Nurses' leadership styles according to NAS scores. São Paulo, SP, 2005

Pairs	Leadership Styles	NAS					
		n	Mean	Minimum	Maximum	sp	p
1	E1 ou E2	32	85.5	70.0	101.8	6.3	<0,001
	E3	55	76.9	62.4	88.9	7.2	
2	E1 ou E2	44	83.0	66.8	101.8	7.7	<0,001
	E3	43	77.1	62.4	87.2	7.2	
3	E1 ou E2	48	81.8	63.8	101.8	8.3	=0,008
	E3	39	78.0	62.4	88.9	7.1	
4	E1 ou E2	59	81.9	62.4	101.8	7.8	=0,002
	E3 ou E4	28	76.2	62.4	87.8	7.0	
5	E1 ou E2	87	80.1	62.4	101.8	8.0	-
	E3 ou E4	-	-	-	-	-	
6	E1 ou E2	78	80.0	62.4	101.8	8.2	=0,853
	E3 ou E4	9	80.6	70.0	88.9	6.6	
7	E1 ou E2	50	83.7	63.8	101.8	7.0	<0,001
	E3	37	75.3	62.4	85.9	6.6	

The data in Table 2 show that, when leadership styles E1 and E2 were used, the average NAS score was higher ($p < 0.05$) when compared to the average NAS score observed in group E3 or E4, excluding pairs 5 and 6.

In pair 6, the average NAS score was not different (p=0.853) regarding the leadership styles, despite the predominance in using style E1 or E2. As verified before in Table 1, the leadership styles adopted in pair 5 included only E1 and E2, and the average NAS score was 80.1%.

DISCUSSION

The personal and professional profiles of nurses and nursing technicians in this study reveal that 92.8% are women and are young. The nurses have less time since graduation, but have a longer working time at the institution. The ICU working time was the same between leader and subordinates. They were all familiar with the subject of leadership and six nurses had a specialization degree.

Variables concerning the personal and professional profile did not have any statistically significant relationship with the nurses' leadership styles (p>0.05). Since the leaders were young and had little ICU work experience, it was expected that styles S1 and S2 would prevail in order to assure they would provide the care that was under their responsibility, or E3 and E4 with the aim of obtaining a good interpersonal relationship.

As to the quantitative workload, it was observed that the mean found in this study (80.1%) differed from the mean found in other Brazilian studies that also used the NAS. In four ICUs of a private hospital in the city of São Paulo, a 67.1% (min=55.7%; max=107.2% and sd±8.4) NAS mean was found[4]. Two of them were general units, one with 28 beds and the other with eight, and the other two specialized in neurology, one with nine beds and the other with 11. The units are dedicated to the care of clinical and surgical patients. Another study[9] found a 66.4% mean, using the NAS between elderly and non-elderly patients in an ICU with 11 beds in a secondary level university hospital.

In this study, nurses used leadership styles E1, E2, and E3 more frequently with their subordinates when performing nursing activities for the 87 ICU patients. The most frequent maturity level among the seven nursing technicians was considerable to plenty for capacity and willingness.

It was verified that there is a tendency towards the practice of more participative leadership, with the possibility of persuading (E2) and sharing (E3) care decisions with subordinates. Nevertheless, the determine (E1) model still persists. This could be due to the concern with immediate results that need to be achieved when caring for severely ill patients.

Studies that used this same theoretical framework found similar results in several hospital units. In the emergency room, it was observed that sharing (E3) was the most common style among nurses[1], as well as in the operating room[10]. Styles E3 and E4 were the most frequently used in the surgery hospitalization unit[11]. Nevertheless, comparing the same sector in two hospitals, style S1 permeates both institutions, along with E2 and E3[12].

When applying situational leadership to identify the leadership styles used by nursing directors, it was found that E2 and E3 comprised the main and secondary styles, respectively[13]. This also was demonstrated when studying nurses of a philanthropic hospital[14].

The styles are used, therefore, in several situations, depending on the variables involved: task, relationship, and maturity. There is no single best way to influence people[15]. The leadership style will depend on the subordinates' maturity level.

Despite the differences between the pairs, in five of them there was a statistically significant relationship between the leadership styles and the workload, measured through the NAS. Nonetheless, considering the reality of this ICU, as well as that of the professionals that composed the sample, and the amount of care demanded by patients, it can be stated that, the greater the nursing workload, the stronger the tendency for nurses to be more directive in their actions, using less participative leadership styles, like E1 and E2.

The study limitation, however, lays in the fact that the relationship between mean NAS scores and each leadership style (E1, E2, E3, and E4) separately could not be determined, due to the reduced sample size (n) for each group in many situations.

CONCLUSION

The present study results permit the conclusion that: the variables concerning the personal and professional profile do not show any statistically significant relationship with the leadership styles chosen by the nurses (p>0.05); the ICU nursing workload was high, with a mean value of 80.1%; the

nurses mostly chose the leadership styles E2 and E3 to deal with their subordinates; the seven nursing technicians presented considerable to plenty of maturity for capacity and willingness; and the leadership styles were associated with the workload, i.e. in situations of high nursing workload, it was observed that nurses used the leadership styles determine (E1) and persuade (E3).

In the light of these conclusions, the ICU nurse should consider that the nursing workload required by patients affects the way their leadership occurs in that unit. In order to improve their human resource management, leaders should know the capacity and willingness of their co-workers and partner them to the complexity level demanded by the clientele. Thus, team members would have the chance to develop and improve their knowledge, abilities, and attitudes when providing nursing care. This is a continuous process that requires deep dedication and constant evaluation, so that the results can be converted into better quality care and improved team work in ICU.

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