Leadership and organizational climate of a Cuban pediatric hospital. 
Vision of head and care nurses *

Liderazgo y clima organizacional de un hospital pediátrico cubano. Visión de enfermeras jefas y asistencias

Liderança e clima organizacional de um hospital pediátrico cubano. Visão de enfermeiras chefes e assistenciais

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Abstract: Objective: describe experiences of nurses heads and clinical nurses on the causes that may affect the organizational climate of pediatric services in a Cuban hospital. Method: qualitative and exploratory study done in the months of April - December, 2018 with 14 heads nurses and 11 healthcare nurses, belonging to the Pediatric University Hospital "Paquito Gonzales Cueto", Province of Cienfuegos, Cuba. The data were collected with the focus group technique; the narratives were processed through content analysis based on the theoretical framework of organizational climate with the central category of leadership. The research was evaluated by the Ethical-Scientific Committee of the reference hospital. Results: four subcategories of content analysis emerged based on the theoretical framework. The most important was “ideology of a manager “followed by "continuous improvement" "listening for relational harmony" and "sense of belonging". Conclusions: the main causes as affecting organizational climate are related to the characteristics of the leader and the possibilities of overcoming them and the rest of the staff.

Descriptors: Leadership; Nursing; Organization and an administration; Hospital administration; Work environment

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Resumen: Objetivo: describir experiencias vividas de enfermeras jefas y enfermeras asistenciales sobre las causas que pueden afectar el clima organizacional de los servicios pediátricos en un hospital cubano. Método: estudio cualitativo de tipo exploratorio realizado en los meses de abril-diciembre, año 2018 con 14 enfermeras jefas y 11 enfermeras asistenciales, pertenecientes al Hospital Pediátrico Universitario “Paquito González Cueto”, Provincia de Cienfuegos, Cuba. Los datos se recogieron con la técnica de grupo focal, las narrativas fueron procesadas mediante análisis de contenido en base al referencial teórico de clima organizacional con la categoría central de liderazgo. La investigación fue evaluada por Comité Ético-Científico de hospital de referencia. Resultados: emergieron cuatro subcategorías del análisis de contenido con base en el referencial teórico. La de mayor peso fue “ideario de un directivo” seguida de “mejoramiento continuo” “escucha para la armonía relacional” y “sentido de pertenecía”. Conclusiones: las principales causas que afectan el clima organizacional se relacionan con las características del líder y las posibilidades de superación de ellos y del resto del personal.

Descriptores: Liderazgo; Enfermería; Organización y administración; Administración hospitalaria; Ambiente de trabajo

Introduction

The National Health System in Cuba poses as a challenge the improvement of the management of its directors in health institutions for which it considers essential objectives such as promoting creativity and innovation of its corporate leaders through permanent training, in search of efficiency, in addition to deepening international good practices related to the management and leadership of human resources and constant evaluation of the management process.¹

Rev. Enferm. UFSM, Santa Maria, v10, p. 1-21, 2020
Hospitals operate in complex contexts where human relationships, uncertainty and turbulence of internal processes predominate, as a consequence of factors such as accelerated technological change, economic crises, the unusual increase in social demands, the permeability of the state achieved by society and the management of economic resources. Therefore, studying the dynamics of the management of hospital nursing managers is essential to strategically anticipate the improvement of the work environment, in a reality where complexity, skepticism and conflict are permanent intervention challenges, to strengthen the climate organizational, as elements to consider in the organizational methods of management, change and innovation, where officials are satisfied with the work they do, so studying this construct would provide feedback on all processes that influence the behavior of the organization and conduct of individuals.

In this sense, the current trend on nursing management and leadership in services indicates that this is considered an essential factor inherent in all organizational theories. For nursing it is a fundamental competence in the organizational structure of health institutions, due to the need to have efficient and competitive institutions, with human resources prepared in management skills and human resource management, which encourages human relations focused on culture and organizational climate; while generating processes of analysis and the possibility of change in organizations, in order to achieve a better quality of patient care, impact on the work environment and well-being of staff.

Traditionally, nursing professionals have emerged as good managers of the health team, due to their training and professional development, with a broad vision of the “human being”, of “care” and of “health”, beyond the visible, that articulates knowledge and actions necessary to offer creative and quality assistance. They have
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the ability to coordinate teams and develop strategies for the fulfillment of goals and objectives proposed by the health systems.\textsuperscript{6,7} However, in many contexts the invisibility is recognized so that nursing professionals can insert themselves as recognized leaders within health teams and that their decision-making autonomy is respected.\textsuperscript{6}

Thus the nurses through history have dabbled in hospital management and its dependencies, and responding to new paradigms of management with characteristics of complexity, but always integrated public management, strategies driving talent human; in which the variables of recruitment, improvement, management and monitoring of the work team have been a concern of the Cuban health sector.\textsuperscript{2}

The research was carried out at the “Paquito Gonzalez Cueto” University Pediatric Hospital in Cienfuegos, the only one in the province, where highly complex medical care is provided for the population of eight municipalities. It has 140 beds for hospitalization distributed in 14 wards in which 148 nurses work, which is equivalent to a ratio of one nurse to 13 patients. In addition, it has four departments (urgency, sterilization center, outpatient clinic and surgical unit).

Between 2012 and 2014 they came together several aspects of this relates institution two to organizational climate, made visible by the results of annual surveys measuring satisfaction of nurses, where 85% of dissatisfaction was obtained, the results of reports of the Vice-Directorate of Nursing, reflected 71 resignations corresponding to the nursing team of the center. Among the causes related to the climate, the excessive workload, the lack of motivation due to it, were mentioned, as well as other factors such as the treatment they receive from nursing managers and the lack of recognition and remuneration for their efforts.

All of this generated a research project based on an intervention to improve the organizational climate in nursing,\textsuperscript{8} the results of the quantitative phase (pre-
experiment) pointed to no improvement in leadership after the intervention. It was for this reason that it was required to qualitatively investigate the causes that caused this dimension to obtain counterproductive results according to the actions carried out. Hence the objective of this article was; write lived experiences of head nurses and care nurses, about the causes that can affect the organizational climate of pediatric services in a Cuban hospital.

**Method**

As part of the results of the primary study, of mixed sequential explanatory design; (intervention to improve the organizational climate in nursing); emerges from the quantitative phase the need to seek explanations for why the leadership dimension did not improve after surgery, I gave or rather to the qualitative phase design exploratory, which led to the description and interpretation of meanings, perspective, visions and perceptions relative to the experiences lived by nurses with leadership positions and care nurses, regarding causes that affect the organizational climate of pediatric hospital services. The analysis units were nursing professionals with managerial positions and clinical service nurses without managerial positions, all belonging to the “Paquito Gonzalez Cueto” University Pediatric Hospital of Cienfuegos Province, Cuba, during the months of April-August, year 2018.

For the selection of the participants, the universe of nurses with managerial positions was taken into account, that is, they were heads of wards, all with more than 5 years in the position. In the case of care nurses, the selection criterion was that they had been working in the hospital for more than five years, of which the acceptance of one from each service was achieved, for which 11 nurses participated.
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Prior to the investigation, the wandering phase was deepened to organize the temporary maps, with the aim of re-linking with the study population, we continued to notify participants about the purpose of the research and anonymity was confirmed, as well as ratifications of confidentiality information. It was emphasized that there would never be administrative reprisals for information obtained and signed the informed consent; prior notice with each group of nursing professionals. A one-hour focus group session was conducted with each group of participants separately (nurse managers and nurse practitioners); both with the same guiding question from the triggering question: what characteristics do you consider that the service management should have to achieve good work results? This question was related to the discordant results obtained in the quantitative phase of primary research, where the leadership dimension was the only one that did not improve after the intervention.

Given the interest of the study to identify the causes of the negative responses in the leadership dimension which caused alterations in the functioning of the organizational climate, the focus group was decided as a data collection technique. The decision obeys what has been stated in the scientific literature, where it is stated that the technique is particularly useful for exploring people's knowledge and experiences in an environment of interaction, which allows us to examine what the person thinks, how they think and why think that way.

To carry out the focus group technique, the development phases of the group methods were considered: setting of objectives, selection of participants, preparation, organization and development of discussions, analysis of information, as well as selection of the place of realization, which it had the structural conditions of space, ventilation and good lighting. The seats arranged in the shape of horseshoe for She
allowed visibility and exchange between participants and the moderator. Recording media of the technique were used, a necessary aspect for subsequent content analysis.

Each focus group materialized individually, in a multipurpose room of the hospital, a space away from the dynamics and nursing care context, in order to avoid fears and apprehensions during the speeches. It was carried out by an alternate researcher; two researchers participated as observers and two as research assistants.

The two focus group sessions took place at various times, the first; the moderator explained the objectives, the importance of the dialogues, and the value of each opinion and work dynamics that would be used. During the central phase, the moderator directed the conversation towards the essential theme starting from the introduction of the research question. The debate passed harmoniously, based on this and with the contribution of the participants.

The narratives were recorded, transcribed and grouped in a textual body. In order to preserve the anonymity of the participants, the heads of the ward were identified with the letter [J] and the care nurses with the letter [E] and were numbered according to the order of the word. For processing information obtained, the technique content analysis was used Bardin\textsuperscript{10–11} with the use of corresponding three phases: 1) pre-analysis, 2) exploration of the material and 3) treatment results, inference and interpretation.

In the pre-analysis, the textual body was organized and floating reading was performed with the purpose of appropriating and initial ideas. It was decided to use the colorimetric method to select the units of analysis. In the second phase of exploration of the material, an exhaustive reading of the textual body was carried out, at which time the raw data is transformed, organized and gathered into units, which allow the description of the pertinent characteristics of the content, the units were
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marked in different colors analysis, the nuclei of meaning that gave rise to the categories were searched.

In the third phase of treatment of the results, inference and interpretation, the categorical analysis was carried out based on the categories of the theoretical framework related to the leadership dimension of the organizational climate. S and applied frequency weighted which identified the p that the frequency of each category.

The research was evaluated and Approve to with the agreement No. 25-18, of July 23, 2018; Data collection was subsequently carried out by the Scientific Council and Ethics Committee of the referral hospital, in compliance with the basic principles of the Declaration of Helsinki of the World Medical Association, in its version of the 59th General Assembly, Seoul, Korea, October 2008. others was fulfilled in every phase of the research, with the requirements ethical Ezekiel Emanuel. Bioethical principles were safeguarded, such as respect for autonomy: the right of the participant to express opinions, decisions and whether or not to participate in research, as well as no personal repercussions, when contributing to the study; charity: when there are no actions, conditions, damages, risks, discomfort or pain for the participants, respecting their rights; non-maleficence: not causing any type of physical or emotional danger and the principle of justice: treating all participants in a similar way and with the opportunity to contribute.

Results

The instrument used in the quantitative phase of the mixed sequential explanatory study was the “organizational climate inventory”, which measures four basic dimensions: leadership, motivation, reciprocity and participation, which in turn are subdivided into four variables each. In the case of the leadership dimension, the
variables are responsibility, communication, encouragement of excellence and direction. According to data obtained in the evaluation of this phase, the leadership dimension was the one with the least favorable results in general in both units of analysis. From hence the need for the present study design exploration (phase qualitative) in which it was assumed as a central category "the leadership", hence the analysis of emerging subcategories could make a concatenation with the variables of leadership dimension. To summarize the main category and sub-categories are organized in the following Figure 1.

**Figure 1** - Map of data corpus fragments.

In the processing of the narratives of the two focus groups, four subcategories of content analysis emerged based on the theoretical framework. The most important was "ideology of a manager" followed by "continuous improvement", "listening for relational harmony" and "sense of belonging" Each of them are described below.
Ideario managerial

This sub-category is related to the direction variable of the leadership dimension with which the Organizational Climate was measured in the quantitative study and the results are basically focused on the characteristics that according to the participants should distinguish a manager to be more effective in his management and leadership of human talent, the discourses that sustain it are presented below.

 [...] Work together, collectively, lead at the same time, that everyone is linked, that everyone gets along (J2), [...] get along with all the workers who are by their side (J7), [...] have a good relationship with all staff (J10), [...] ser example [...] the first thing to be the boss is to be an example, the person who is subject always follow his example (J2), [...] That the boss is an example (J3), [...] to be a boss you have to be an example, so that they see you as an example (J7), [...] you must be a leader and an example to the rest of the group (J10), [...] Must know how to listen and be listened to (J7), [...] know how to listen to their problems (J10) [...] any hospital leader, the first thing to do is treat all workers with respect (E5), [...] that both respect each other (J2), [...] when there is respect between the leader and the worker, work flows better. (E5)

Continuous Improvement

In this case, the sub-category is related to the variable stimulus to excellence in the leadership dimension and points to the need for improvement and permanent training, both for directive and care nurses to achieve the objectives of the pediatric institution, but above all to improve the quality of care.

 [...] To be a good leader, one must be very well prepared both administratively and scientifically, as well as technically (J5) [...] the high scientific level to direct other subordinates (E7), [...] do emphasis with the new personnel, with the students that are being incorporated (J2) [...] the new personnel should be prepared for the replacement, especially in specialized services (E6), [...] which at
the moment we are directing the services we have to work on that part [...] in preparation because that is the future of us (J2), it is important to improve, especially being a Professional, giving practical classes or training in other services (E3), [...] research is important (J9), we must raise the scientific level because raising the scientific level raises the quality of work (E6) [...] the person who directs must always be above other people, in teaching [...] to always know, to be studying so that I can lead (J12) [...] they are required to be well trained to work with children. (E8)

Listening for relational harmony

This corresponds to the communication variable, in which a special value is given to tuned and resonant listening by managers, as a fundamental skill for teamwork.

[...] the unit of the service starting from [...] the person who directs it, you must always know how to listen, both to the personnel who are not the head of the service and to others because that way you work more united [...] and things go better good results are achieved because everyone sees themselves as a complete team and everything is going better (J9), [...] a bit of discipline has been lost, a bit of the part of formal education (J2), [...] is important that nurses maintain a relationship, that all workers in the health sector, that everyone learn to try to get along and respect each other. (E3)

Sense of belonging

The latter sub category relates to the responsibility variable in her speeches are aimed at the circumstances of satisfaction of a person, the part of a group, community or other group, which is valued institution as their own and thereby progress in collective work.

[...] one has to have a sense of belonging from the moment they enter the hospital door, of everything that is there within the service of each one and within the institution, taking care of everything. (J12) [...] to think that this is my hospital and these
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are my children. (E8) [...] I love this pediatric work here since I graduated. (J9)

Discussion

The researchers recognize in the participants that their speeches are nuanced by interests, demands and aspirations, so that a good work environment is balanced in their institution and/or services, which is projected towards respect, good human relations, model of leader who directs them and towards the achievement of general objectives of the institution. Hence the importance of inquiry the behavior of this construct to training processes continue to continuous improvement of the organizational climate influencing n in the workplace and thus avoid situations of conflict or unrest officials that impact the performance their care giving performances.

The address is viewed as a method to be applied by managers for conducting human resources, where there is evidence of a manager, a role model, conditioned by the support and collective union to meet labor needs and engage in mastery over situations administrative and assistance services of the service directed by a boss, where professionals feel that their efforts to maintain the integral functioning of their services are distinguished, reflecting a teamwork that is differentiated by its good human relations, as highlighted in study\textsuperscript{13} where he concludes that the supervisory relationship with his work team are important determinants of the affective bond of nursing professionals with their health organizations.

In the direction the leadership occupies a key place, so it is reflected in the study made,\textsuperscript{14-16} which highlights that nurses from different cultural backgrounds occupational, geographic and had different interpretations of the organizational climate and culture and underlying leadership style constructs. So central to interdisciplinary teamwork effective, it is the way and management styles to drive human resources, recognizing and
building labor relations on the only differences in the styles of behavior of members of the team as well as the proper management method of the leader.

In the *managerial ideology*; It is not about personality; It is human behavior, for value and understand the differences in management styles that help improve self-esteem and satisfaction among nursing teams and identify and use inherent abilities of people. For researchers is essential this sub category, because the steering action is conditioned at managerial perspective the boss with his team, objectifying, welfare staff, consideration of exercise and work commitment, translated into responsibility, empathy, ability to make decisions and communicate and manage effectively and efficiently. Results that make an analogy with other studies,\(^{13,17-18}\) where they highlight that, for good interdisciplinary teamwork, emphasis is required on cooperation, collaboration and communication as predictors of work commitment and social support from the supervisor. From this perspective, the analysis carried out by other authors\(^{17,19}\) on this subject, found that there are significant evidence of confidence in one leader is strongly related to attitudes at work, second, and to a lesser degree, with behaviors citizens and, finally, with organizational results. For example, recent research has found a significant impact on: organizational commitment,\(^{16}\) sense of empowerment,\(^{15}\) perception of leader effectiveness,\(^{14}\) and job satisfaction.\(^{7}\)

In the *continuous improvement* sub- category, participants perceive it as a relevant indicator of motivation for work. From the analyzes emerges the need for constant improvement of both managerial nurses and care nurses and the value they confer on them for personal and institutional development; added to several factors that mediate the organizational climate; Some are related to scientific and technical preparation of the leader, the individual personality, the trainings specialized services and continuing training, all make up a grid of different variables that favor
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the working environment, peer relationships and leadership. Results that make similarities to the study, which concluded that the training and education of supervisors in leadership styles, training management and handling of labor resources at work, allow increasing levels of affective commitment of human resources in the units or nursing services.

According to an article on the evolution and profiles of the surgical nurse and manager in which, interviews a professional with more than 40 years of experience, she declares that

the middle command or superior command, first, you must have knowledge. Not so much at the level of nursing management, supervisor or assistant, you must be an expert in the units that you are going to manage. Because if you have extensive experience in these units, you know how to get the most out of it. Second, you also have to have management skill.

The *listening* sub-category for relational harmony, visibly related to communication, was considered essential by the study participants to guarantee the organizational climate and thus the proper functioning of the team, an aspect that even for nursing is of great value, since it is recognized as one of the attributes of humanized, holistic and parsimonious care. As a Chilean academic nurse says,

> [...] the attribute of communication allows us to understand the interaction in the act of communicating and caring; It would trigger mutual benefit between health personnel and the subject of care, but currently the performance of the act of care is limited, giving in theory and practice an enhancement to humanized care.

This sub-category emphasizes the ability of the head of nursing to listen carefully to his work team, seeking to understand emotions, feelings and inconveniences that could disturb the organizational climate of the nursing service and with it relationships internal members of its members. The power of listening is a true and authentic interest and mutual respect is projected from this ability, otherwise the frustration of the work team appears. Results such as those described

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here are related to other studies, where it is concluded that nursing leaders can benefit from awareness of differences in behavioral style preferences to improve communication and team effectiveness, as well as improve satisfaction among the members of the work collective.

For researchers, it is important to highlight that, in nursing work teams, communication is the only vehicle for relating and establishing close ties through the languages, both verbal and non-verbal, implicit in each culture in particular and if a This adds the power of listening; would processes inescapables and of great importance in human relations, considered useful both personally and professionally. In a study on communication in nursing managers: a fundamental role, concludes that there is a communication deficit or failure of this, between the team and the managers, so it is necessary the importance of communication in management and the urgent need for training in communicative competence for the efficient management of services of Nursing.

Finally, the sub category, sense of belonging, linked to the responsibility variable, denotes the commitment that is required by the participants with their institution and allows analyzing the need to go to people committed to the hospital as a strength to generate changes, provided that the conditions exist to feel accepted as a member of a team, where the respect and harmony of the group mediate.

Relevance in the workplace guard nursing relation to the tasks assigned to officials of the equipment, which could have favorable results as the conditions of the working environment, environments expansive human relations and communication are effective within the work space. It is here where the management style of the head nurse can favor the optimal performance of the task, by the work team, which is
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constituted and has its meaning for and in the task, even who receives the entrusted action, can perceive certain degrees of satisfaction.

Therefore, it is essential to provide the work teams with enough information, as well as technical guidance to carry out different activities to be developed, in addition to persuading them, why compliance is necessary, in no way impose the activities and guidelines. In this regard, it is necessary to give opportunity to participate in decision-decisions, in resolving conflicts on the responsibility to the change, so that nursing teams feel identified and committed to their institution; in turn more motivated and recognized. Hence the importance that many connoisseurs of the subject give to communication, to obtain degrees of responsibility and, above all, a sense of relevance of their institution.

These results are consistent with the study on Organizational Climate Perception of nurses on primary care, which recommended that it is vital that the health team and special of nursing, they encourage making them participate in the decisions of its service and institution, by committing them to the respective institutional policies; and not only is motivate the staff with economic incentives but with recognition of personal, they feel supported by the organization, motivated, this will be way more responsible and can deploy their creativity towards to achieve the goals and objectives of the institution.

This sub- category, sense of belonging, also allows to allude to the concept "sense of community" which consists of the perception of similarities with others, shared social identity, interdependence, influence, cohesion and union of a group, relationship of affection, doing for others what they would do for you, sharing feelings and responsibilities.
The results of this research make analogies with study on sense of community of a multidisciplinary health team report that participants identify the sense of belonging to the team mainly by the Capacity professionals work together, respect the place of the other, and mainly, for perceiving their importance for the group and feeling members of it. Likewise, the recognition that the work of the sector where the professional work is part of the equip or and the results achieved showed a significant element to keep people integrated into the same purpose.\textsuperscript{25}

Other studies, however, find opposite effects, when they record that the sense of belonging to the nursing profession is incipient. This motivation is not enough to develop because the relationships and coexistence are not entirely good, mainly because there are unresolved problems among care nurses. Other factors that hinder the development of a sense of belonging are the lack or loss of integration of the members and the dissatisfaction of some participants with the work they perform in the service.\textsuperscript{26}

Both analyzes confirm the importance of a good organizational climate to strengthen the sense of belonging, in which leadership and teamwork are fundamental pieces for this.

**Study limitations**

In Cuba, in the nursing area there are few published studies on the subject. The inclusion in this research of original articles is recognized, and there may be publication bias, due to scientific information in databases of conferences and symposia that could not be included due to not having access.

**Conclusions**
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The main causes that affect the organizational climate are related to the leadership dimension, they are basically related to the characteristics of the leaders and the possibilities of overcoming them and the rest of the staff, which result in better labor relations and are basic inputs that sustain the climate of the nursing institution. Communication and responsibility underlie among other thresholds necessary to achieve, better relational work, and thereby improve the dynamic, effective, communication and membership teams work nursing.

The results of this study provide a look at the issue of hospital management, particularly in the nursing area, as they make visible causes that affect the organizational climate with specificity in the leadership dimension, as one of the necessary aspects to address in management of nursing services. However, the findings revealed in the study cannot be generalized. Situations like these can occur in any health institution as part of the relationship dynamics of the teams, so the categories found could be transferable to similar contexts.

References


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26. Villagra Rivera N, Ruoti Cosp M. Empoderamiento enfermero en las unidades de
cuidados intensivos en el Hospital Central del Instituto de Previsión Social. Mem Inst Investig Cienc Salud. [Internet]. 2018 [citado 2020 jun 12];16(1):84-93. Disponible em: https://pdfs.semanticscholar.org/113e/1dfe949c17ab0407552bc1467d1bd69f6a4b.pdf

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How to cite this article