# SOCIAL NETWORKS AND COORDINATION OF HEALTH CARE FOR USERS WITH HYPERTENSION AND DIABETES MELLITUS

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## **ABSTRACT**

Objective: to understand how the positions and interactions of professionals influence the coordination of health care of users with hypertension and diabetes mellitus. Method: a descriptive study with a quantitative approach with the participation of 12 health professionals from a Primary Health Care unit in a municipality in the Middle Paraíba region of Rio de Janeiro, outlined by the methodology of social network analysis. Results: despite the presence of all actors in the sociogram, the dynamics between them emerged as low, which may result in ineffective communication and the presence of interactions external to the health unit in an attempt to ensure care coordination. In turn, the greater emphasis identified in the sociogram for physicians and nurses may be related to the place they occupy in the care, organization and management of the service. Conclusion: the coordination of care is directly related to uninterrupted assistance to the individual, with guaranteed access and comprehensiveness of care. The low dynamics and greater emphasis in the sociogram on higher education actors corroborate the need for greater integration among professionals and reflection on the role of Primary Health Care in the coordination of health care.

Keywords: Primary health care. Social networks. Longitudinality of care. Hypertension. Diabetes mellitus.

### INTRODUCTION

One of the main challenges of the Unified Health System (SUS) is the quality assurance of care and management<sup>(1)</sup>. The health actions that preceded the SUS had as characteristics to be focused, fragmented, isolated and guided preferably by the biomedical model<sup>(2)</sup>. The advent of the SUS in the 1990s made it possible the existing health and social to unveil problems, based on a care proposal focused on the positive concept of health, equity, integrality and teamwork<sup>(3)</sup>.

The Family Health Strategy (FHS) has been consolidated as a preferential model for SUS organization and care management, being considered from the 1996 Basic Operational Standard as an induction strategy aimed at restructuring the health system from Primary Health Care (PHC)<sup>(2)</sup>. With the FHS, health care began to have as objectives the production of health surveillance, from the perspective of promoting and preventing diseases interventions focused on the family, the community and the most prevalent health problems(4).

In the practice of services in PHC, one of the greatest difficulties faced by professionals in the Family Health teams (FHt) is to manage the care affected by chronic diseases, users Systemic Arterial Hypertension particularly (SAH) and Diabetes Mellitus (DM). These pathologies require systematic care, which should consider prevention, promotion, treatment and rehabilitation actions. Thus, the FHt demands expanded knowledge related to the population exposed to the risk of developing SAH and DM, as well as technical competence to guide the management of cases, which are sometimes unique<sup>(5)</sup>.

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The care expected in the FHS for users with SAH and DM, in the convergence of the production of practices capable of producing significant changes, must be multiprofessional and interdisciplinary, where each actor, in addition to assuming specific responsibilities linked to his core of knowledge, is responsible for common activities, which involve the collective of actors and are necessary for the organization of the work process and the integrality of care<sup>(6)</sup>.

The attention to users diagnosed with SAH and DM must be permanent, useful and lasting, so that the production of care is reflected in the control of these pathologies and in the reduction of the incidence of exacerbations, hospitalizations and the appearance of other diseases associated with them. Thus, the creation of bonds and the coordination of care emerge as essential for the effectiveness of the actions and activities planned by the FHS<sup>(7)</sup>.

The coordination of care implies establishing connections in order to achieve the greater objective of providing/meeting the needs and preferences of users in the provision of care, with high value and quality<sup>(2)</sup>. In PHC, it involves care and a long-term personal relationship (social network) between health professionals and users enrolled in FHt<sup>(1)</sup>, with the benefits of better preventive health care, with a consequent reduction in the incidence of diseases; greater control of diseases and their aggravations, with more adequate and timely attention; increased recognition of the real health problems of users; and better use of health services, with a reduction in the number of hospitalizations<sup>(8)</sup>. It is observed that the greater the multiplicity of people and services involved in the provision of care and the more complex the intervention to solve a given problem, the greater the level of coordination required to achieve the desired result<sup>(4)</sup>, as in the case of chronic conditions that require the simultaneous use of several services.

Social networks are built from a constantly moving social capital, constituted from relationships linked to a group of agents that are not only endowed with common properties, but united by permanent and useful connections<sup>(9)</sup>. The theme involving social networks and PHC has gained prominence in the

scientific literature, as it allows us to understand the relevance of the relationship between professional-professional professionaland patient for health care. The focus of studies based on social networks is the interaction between individuals/institutions, with emphasis on the effects of this interaction on the social structure and vice versa. These have allowed us measure the relationship patterns and interrelationships between actors/equipment at a given moment/time, portraying the positions they occupy and the influence/role of each actor in the production of health care(10,11).

The coordination of care presupposes the construction of dynamic networks, requiring cooperation and integration of the actors and services involved<sup>(2)</sup>. Thus, the study based on social networks may be relevant, as they allow to describe the typology of connection, the informational flow and the strength of the connections between the different actors (people, specific groups, health equipment)<sup>(12)</sup>.

This article aims to understand how the positions and interactions of professionals' social networks influence the coordination of health care for users with systemic arterial hypertension and diabetes mellitus.

## **METHODOLOGY**

This is a descriptive study with a quantitative approach. Social Network Analysis (SNA) was adopted as a method for focusing on relationship patterns, emphasizing the objectivity of relationships, enabling the mapping of information flow and communication patterns, and revealing the actors in prominent positions in the network<sup>(12,13)</sup>.

We sought not only to measure the patterns of relationships and intercessions between the actors, based on their contacts. Before, with the use of specific procedures, it was possible to advance in the mapping of social configurations and representation of the connections between the different actors in the social structure<sup>(13)</sup>.

The coordination of care involves teamwork, as well as modeling of networked health care, with the intention of inducing more resolutive actions<sup>(14)</sup>. The SNA lens can contribute to the identification of key actors who are able to build

more sustainable bonding relationships and reveal the influence of their positions in the network for care coordination that contributes to ensuring integrality<sup>(13)</sup>.

Thus, with a focus on coordinating the care of users with SAH and DM, we sought, supported by SNA, to configure the tracing of the social networks of FHS professionals and to present measures that specify the relationship patterns between them, which, in the research, proved to be relevant for highlighting in the context of PHC the role of each professional, as well as clarifying which actors are relevant to guarantee the transit of users with SAH and DM, aiming to have access to health care.

The scenario chosen was a family health unit, located in a municipality in the Middle Paraíba region of Rio de Janeiro. The choice of the unit was due to the fact that it has 100% registered users; knowledge by professionals about patients in the territory diagnosed with SAH and DM; proposal for long-term care and follow-up of users with SAH and DM, focusing on health promotion, disease prevention and periodic home visits; and nurses and physicians linked to the FHS for more than 1 year.

In order to maintain anonymity, it was agreed to call the unit U1. At the time of data collection, it had 13 years of existence, 02 FHt, with a total of 02 nurses, 02 family physicians, 08 nursing technicians, 08 community health agents and 02 administrative assistants. At the request of the municipality's PHC management, the study was extended only to a team of this unit so that there would be no damage to the work process and by the understanding, on its part, that the research with one team could partially portray the work of the other, by sharing flows and information. Thus, a total of 12 professionals participated in the research, 01 nurse, 01 physician, 04 nursing technicians, 04 CHA and 02 administrative assistants, who were coded with abbreviations of their functions.

Data collection was outlined by the semistructured interview<sup>15</sup>. A script was developed with sociodemographic data (age, sex, profession and work situation); time working in PHC; information about the strategies adopted to coordinate the care of users with SAH and DM; survey about the referrals of patients affected by these diseases to specialized care; and the following question: which health professionals/equipment do you call to ensure the care and coordination of the care of users with SAH and DM? It should be noted that the question was open and that the actors could signal all the professionals/equipment that interacted, in the context of coordinating the care of users with SAH and DM.

The interviews with the professionals lasted a mean of 30 minutes; they were carried out individually in an office provided within the unit, with a closed door, with a chair for the interviewer and the research participant. Responses were recorded on a digital voice recorder for later transcription. The Informed Consent Form was made available to all participants at the time of the interview, who, after agreeing and signing, received a copy of the document.

Based on the participants' responses about the people who interact with them, from the perspective of coordinating the care of users with SAH and DM, a Microsoft Excel spreadsheet was created with the information collected. The actors in the scenario were arranged vertically and all the professionals/equipment mentioned as relevant for care coordination were arranged horizontally. Each professional/equipment mentioned by a given actor received a value of "1" and, when not mentioned, a value of "0".

The Ucinet and Netdraw software were used, respectively, for the analysis of information/creation of sociograms and their generation/presentation in image format<sup>16</sup>.Ucinet works with the logic of dichotomous variables and recognizes the presence of a relationship for the value "1" and the absence of a relationship for the value "0".

The matrix created in Microsoft Excel has been exported to Ucinet. At first, the total number of possible relationships (PR = TNA x (TNA-1) was identified, where PR = possible relationships and TNA = total number of actors; and density (D = ER/PR x 100), where D = density, ER = existing relationships and PR = possible relationships.

Then the measures of degree centrality and intermediation were applied. The first aims to explain the position of the actors in the network and identify which ones have greater or lesser prestige, that is, those who have or do not have resources or authority and are seen as relevant for the longitudinality of care<sup>(16,17)</sup>; the second, on the other hand, aims to clarify the coordination and control capacity of certain actors in the network, who, due to their intermediate position, are considered as bridge actors<sup>(16,17)</sup>.

From Netdraw, which is already integrated with Ucinet, it was possible to export the social networks built in image format, with the respective measures highlighted. The sociogram is the graphical representation of a social network, consisting of a type of portrait of how social actors relate and group themselves. The representation is made by points and lines; the points represent the actors and the lines the connection between them<sup>(16,17)</sup>.

The analysis of sociograms allows the identification of the most central individuals, as well as the most peripheral ones; and makes it possible to highlight the roles of each node in the network, which contributes to explore in the light of the theoretical framework how social interactions can be relevant for the coordination of care<sup>(12)</sup>.

As this is a study involving human beings, fundamental ethical and scientific requirements were met, and the research was carried out in accordance with Resolution No. 466/2012 of the National Health Council, which deals with scientific research involving human beings<sup>(18)</sup>. The study had institutional consent from the Municipal Health Secretariat of the region and approval from the Ethics Committee of the State University of Rio de Janeiro, under number 728.664.

#### RESULTS AND DISCUSSION

The sociograms that will be presented were obtained from the question sent to the actors of health unit about the health professionals/equipment that they activate to guarantee the assistance and coordination of the care of users with SAH and DM. Of the 12 professionals who work in the unit, all were mentioned, even if not directly by name, but generically from their professional categories, which implies that they have the perception of the relevance of teamwork for care coordination (Figure 1). It is noteworthy, however, that the actors made contacts with professionals from other units and/or services, creating "unofficial" networks to obtain support regarding the coordination of care.

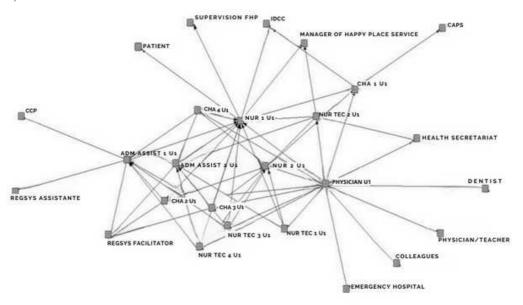


Figure 1. Sociogram of U1 professionals

**Legend:** NUR - nurse; PHY –physician; NUR TEC - nursing technician; CHA - community health agent; ADM assist-administrative assistant; SFHP supervision of the Family Health Program; IDCC - Integrated Diabetic Care Center; CCP - Continuous Care Program; REGSYS - Regulation System.

The sociogram of U1 professionals has 26 nodes and 71 interactions out of a total of 650 possible relationships, with a density of 10.92% (out of a total of 100% possible connections). The higher the density of a network, the better the informational and material flow; on the other hand, the low value is credited to the absence of direct communication between all actors<sup>(19)</sup>. The fragile density has been observed in studies carried out in PHC, supported by SNA. In these, the factors that cooperate for this are the deficient communicative process, the turnover of the FHt medical professional due to the difficulty of fixing it in hostile territories and difficult to access, the fact that the teams are incomplete, the absence of planning meetings and discussion of cases, interpersonal conflicts, distinct interests and the lack of knowledge about the role of PHC in the Health Care Network (HCN) (6-8).

The coordination of care presupposes the continuity of the care relationship, with the construction of a bond and accountability between professionals and users over time and in a permanent and consistent manner, following the effects of health interventions and other

elements in people's lives<sup>2</sup>. The density of the networks clarifies work processes that are not very cohesive, characterized by little integration between professionals and health equipment. In the practice of health services in PHC, low density can lead to a lack of understanding by professionals of the health needs of users, family and community; it can weaken knowledge about habits and customs, and consequently prevent the possibility of actions that value behavior change; and contribute to the planning and production of health care far from people's reality<sup>(13, 20)</sup>.

The datum linked to the density of the social network brings relevance to the expected resolution for PHC. The low interaction and communication between professional-professional and professional-equipment is configured as a disarticulating element of the use of the different technologies of individual and collective care available in the HCN, of the expanded clinic, of effective clinical and sanitary interventions, of the construction of bonds and expansion of the degrees of autonomy of individuals and social groups<sup>(14, 21)</sup>.

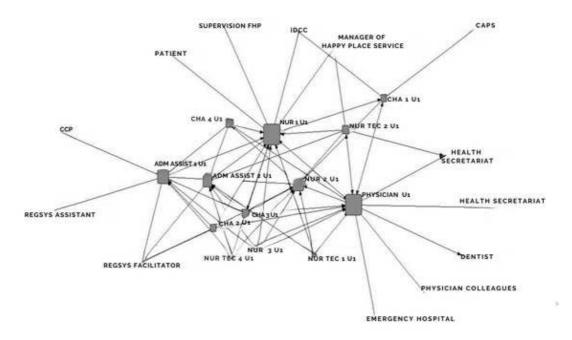


Figure 2. Sociogram of U1: degree centrality

**Legend:** NUR – nurse; PHY – physician; NUR TEC - nursing technician; CHA – community health agent; ADM ASSIST–administrative assistant; SFHP - supervision of the Family Health Program; IDCC – Integrated Diabetic Care Center; CCP – Continuous Care Program; REGSYS – Regulation System.

**Source:** From the authors (2023).

## **Unit 1 degree centrality**

The degree centrality is defined by the number of direct contacts that an actor has with the other links in the network, this being a direct channel of information<sup>(17,19)</sup>. Figure 2 depicts the degree of centrality of U1 actors.

In the sociogram, the actors with high degree centrality appear in relief, being those with the highest number of direct contacts among the professionals. These are: the unit physician, nurses, as well as administrative assistants. In the network, the high degree centrality of the physician may be associated with the ability to diagnose cases of SAH and DM and its prescriptive role, which ends up making her a key professional in the care of users; on the other hand, the high centrality linked to nurses and administrative assistants may be associated with the managerial role they assume in the scenario.

Nurses regulate the care flows and schedules of users with SAH and DM, carry out health promotion and prevention actions and guide mid-level professionals (nursing technicians and CHAs) regarding the approach of users in the unit and in the territory, aiming at adherence to prescribed pharmacological and pharmacological treatment, change in lifestyle and reduction in the incidence of new cases. Administrative assistants have extensive knowledge about the provision of services in the unit, are aware of the reference units for the care of users with acute SAH and DM and are responsible for controlling vacancies specialists and scheduling planned appointments in secondary care, which makes them essential to guarantee the resoluteness of care.

The sociogram shows the central position of most nursing technicians and CHAs. The degree

centrality of the former is due to the fact that they occupy strategic spaces in the unit, assuming most technical procedures (collection of routine exams, dressings, user screening, verification of vital signs, capillary glycemia, and clinical observation). As for the CHAs, they are responsible for establishing direct contact with users in their homes, for knowing the reality to which they are subjected and for being the bridge between them and the services offered by the unit.

Effective performance in the development of procedures in the unit is an element that allows us to assume that nursing technicians have a certain degree of cultural capital, since this is linked to previous knowledge acquired from training processes that allow professional performance <sup>22</sup>. However, it would be necessary to refine the data (which was not possible in this study) from observation or interview, in order to apprehend the level of knowledge about the procedures performed.

The free movement of CHAs through the territory, their authorization to occupy different spaces depending on the degree of bond (health unit, residences, schools, churches, commerce) and their integration with the team make them social actors par excellence. The social capital they hold makes them capable of exchanging information that facilitates knowledge about the health needs and vulnerabilities of the subjects by other professionals, as well as contributing to the access of users to the different services offered by the health unit and HCN<sup>(22)</sup>. Table 1 shows the degree centrality measures of the network actors, with the respective degrees of input (connections received by a given actor in the network) and output (connections that left a given actor towards other actors) (23).

Table 1. Measures of U1 Degree Centrality

Actors	Input degree	Output degree	Degree	Actors	Input degree	Output degree	Degree
PHY U1	8*	15	23	NUR 1 U1	10*	11**	21***
NUR 2 U1	10*	0	10***	NUR TEC 1 U1	1	4	5
NUR TEC 2 U1	1	6**	7	NUR TEC 3 U1	1	5	6
NUR TEC 4 U1	1	5	6	CHA 1 U1	2	5	7
CHA 2 U1	2	5	7	CHA 3 U1	2	6**	8
CHA 4 U1	2	4	6	ADM ASSIST 1 U1	6*	5	11***
ADM ASSIST 2 U1	7*	1	8	H. emergency	1	0	1
Colleagues	1	0	1	Physicians	1	0	1
Physician/teacher	1	0	1	Dentist	1	0	1

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Patient		1	0	1	Manager – Happy place service	2	0	2
IDCC		2	0	2	Supervision - FHP	1	0	1
Municipal Secretariat	Health	2	0	2	RegSys Facilitator	4	0	4
RegSys assistant		1	0	1	CAPS	1	0	1
CCP		1	0	1				

**Legend:** \*Actors with higher degree of input/\*\*Actors with higher degree of output / \*\* \*Actors with higher degree centrality

NUR – nurse; PHY –physician; NUR TEC - nursing technician; CHA – community health agent; ADM assist – administrative assistant; SFHP - supervision of the Family Health Program; IDCC – Integrated Diabetic Care Center; CCP – Continuous Care Program; REGSYS – Regulation System. \*As a criterion for highlighting the actors with the highest degree centrality, those who present a degree with a value up to half of the highest degree presented were highlighted. **Source:** From the authors, 2023.

The input and output factors in table 1 confirm the high degree centrality of the physician, nurses and administrative assistants. However, the analysis only of the degree of entry allows us to conclude that nurses are the most engaged, followed by the physicians and administrative assistants. The data reveals greater prestige, influence, popularity and expansion of nurses in the social network<sup>(21)</sup>.

The presence of nurses in PHC occupying a high degree of centrality appears in other studies supported by the SNA<sup>(10, 11, 24)</sup>. This fact, as pointed out, is due to the care and managerial functions they assume, which make them potential leaders and put them in a prominent position. However, it is worth rethinking the social value of the actions of these professionals, who, even emerging as key actors for the coordination of care in SAH and DM, are sometimes the target of discourses contrary to the exercise of care practices validated by clinical protocols and supervisory bodies of the profession.

Physicians emerge as who most activate the other professionals in the unit(degree 15), followed by nurses 1 (degree 11) and administrative assistants (degree 6). The first two actors are those who, in the daily routine, individually assist patients under suspicion or confirmed with SAH and DM, in addition to being responsible for meeting acute demands and for planning/directing health promotion and prevention activities/actions, which justifies the shooting most of the time towards the other actors, with a view to achieving success in the production of care. Regarding administrative

assistants, it is observed that despite having training not linked to the health field, they end up occupying an important role in PHC, assuming strategic functions and having access to information, logistics and scheduling systems. It is up to them to call the other professionals of the FHt to communicate about new routines instituted by management, warn about criteria established for scheduling, as communicate authorized appointments for specialized services.

#### **Centrality of intermediation of Unit 1**

The centrality of intermediation evaluates the importance of an actor in the network and how much he intermediates relationships. It expresses the control exercised over information and communication by a certain actor and is obtained by counting the times that a certain actor appears in the (geodetic) paths that connect all actors in the network, which makes these actors bridges<sup>(16)</sup>.

An actor with a high centrality of intermediation has the potential to control the flow of information in the network; he can influence the communication of the network in a positive or negative way, depending on his involvement and worldviews and conceptions of health and work; as a bridge actor, he can contribute to the connection with different groups or to the total disconnection of the network, if he is excluded from it (12,21). In Figure 3, the actors with the greatest centrality of intermediation are highlighted.

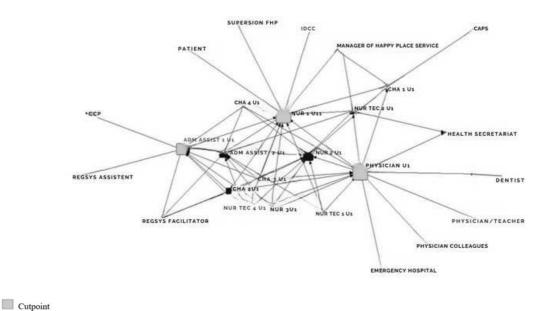


Figure 3. U1 social network: centrality of intermediation

**Legend:** NUR – nurse; PHY – physician; NUR TEC - nursing technician; CHA – community health agent; ADM assist–administrative assistant; SFHP – supervision of the Family Health Program; IDCC – Integrated Diabetic Care Center; CCP – Continuous Care Program; REGSYS – Regulation System.

**Source:** From the authors, 2023.

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The actors that appear with highlighted size are those that have the greatest centrality of intermediation. Table 2 presents the measures generated by Ucinet and confirms the sociogram data, with the 3 actors with the greatest potential

for intermediation: the physician (101), the nurse (94.81), and the administrative assistant 1 (22.08). With a lower intermediation value, CHA 1 (10.66) and administrative assistant 2 (3.91) appear.

Table 2. Measures of centrality of intermediation in U1

Actors	Centrality of Intermediation	Actors	Centrality of Intermediation
Physician	101	Management Assistant 2	3.91
Nurse 1:	94.81	CHA 3	1.89
Management Assistant 1	22.08	CHA 2.	1.75
CHA 1	10.66	CHA 4	0.81

**Legend:** NUR – nurse; PHY – physician; NUR TEC - nursing technician; CHA – community health agent; ADM assistadministrative assistant; SFHP – supervision of the Family Health Program; IDCC – Integrated Diabetic Care Center; CCP – Continuous Care Program; REGSYS – Regulation System.

**Source:** From the authors, 2023.

The "nodes" that appear in Figure 3 and are not included in the table above, obtained the zero value for intermediation centrality, not having, at the time of the study, the potential to control information and communication in the network. However, as the work process in PHC is dynamic and the network is not static, a study using the same methodology could currently demonstrate another configuration and, consequently, other

actors occupying a degree of intermediation.

It is observed, as found for the degree centrality, that the actors with the greatest centrality of intermediation were the physician, the nurse and the administrative assistant. The finding clarifies the relevance of these three actors for the coordination of the care of users with SAH and DM.

It is relevant to reiterate that the nurse was not

acting, at the time of the study, directly in individual care through nursing consultations of patients with SAH and DM, and that even so he emerged as the second professional with greater centrality of intermediation in the network. It is believed that greater autonomy for this professional in the care of users with these pathologies, as well as in the direction of actions and conducts, could be opportune for the quality of care provided to patients with SAH and DM and coordination of care. These professionals in PHC have emerged as key actors and articulators committed to the integrality of actions and the health needs of users<sup>(9)</sup>.

The articulation potential of nurses in various areas and work, makes these professionals have the possibility of being able to act as an instrument of change in favor of the consolidation of new health practices<sup>(25)</sup>. Nurses in the FHS are responsible for integrating actions/services among the various actors of the health team, who are accustomed to dealing with various instruments and subjects in their work<sup>(26)</sup>. Thus, even if nurses in the municipality do not perform direct nursing consultations to users with SAH and DM, their direct participation in the coordination of care is evident, due to their ability to integrate resources and serve as a bond/bridge between the other actors.

Another professional recognized as articulator and mediator is the CHAs. With their work based on relationships and interactivity, they mediate the communication between the health team and the community in which they are inserted, mediating interactions and facilitating communication between users and health services. The role of articulator that they have, due to the fact that they live in the territory and close to users, enables reflection and expanded understanding of the reality to which they are inserted, which contributes to the discussion of cases and problems identified with greater ownership of elements and information. This is why the interrelationship between CHA and user is very advantageous and essential, enabling greater dialogue and rapprochement between the health unit and the population<sup>(27)</sup>.

Regarding the CHA professionals, inserted in the network, it is clear that they are not in the same position and degree of centrality of intermediation. With the exception of CHA 1, which has a degree greater than 10, the others appear with a lower degree. It should be noted that all CHAs in the unit have the same time working in the FHS (1 year and 3 months). However, CHA 1, which emerged with a high value of intermediation centrality, has previous experience in the FHS in another health unit.

Actors with greater centrality tend to disconnect from the network if they are excluded from it and, due to this characteristic, they are called "cut points". Their removal divides the graph into disconnected subgraphs, and an actor identified as a cut point could be crucial, for example, in the dissemination of information, and his removal could mean a cut in communication between two subgroups of the network<sup>(28)</sup>.

This structural relevance can be seen in Figure 3, in which the cut point option was used in the analysis generated by the Netdraw software, using the network matrix performed in Ucinet. According to the analysis, the actors with the potential to disconnect the network of professionals (cut point) from U1 are Nurse 1, physician, administrative assistant 1 and CHA 1. According to the analysis, regarding the social network of U1, it is observed that cultural and social capital falls on these four relevant professionals, making them fundamental in the production of care and coordination of care in SAH and DM.

#### CONCLUSION

The coordination of care in SAH and DM is essential for the promotion of health and prevention of exacerbations and new diseases. As a guideline of the PHC, the coordination of care is directly related to uninterrupted assistance to the individual, with the construction of a bond, respect for uniqueness, risk assessment and constant vulnerabilities and guarantee of integrality.

The Social Network Analysis of the actors allowed us to conclude that the fact that a certain actor has a high value regarding the centrality of degree does not necessarily mean that this same actor will stand out with a high value regarding the centrality of intermediation. On the contrary, there is the possibility that the positions of the same actor regarding these centralities are inversely proportional, as is the case of the unit

nurse, who has a high degree of centrality and low intermediation. The justification may lie in the fact that this actor, despite being widely accessed by the other actors and having a high degree of centrality, is not seen as an intermediary of processes and information. What can be said is that having professionals with both high centralities in the network can be powerful for the coordination of care, which must be based on health surveillance, in its entirety and have the prerogative of meeting the real health needs of users, family and community.

It is possible to conclude from the results that the centrality of the actors is closely linked to cultural capital (training, skills) and social capital (bonds, friendships), as well as to knowledge about the role of PHC in HCN. In practice, actors, by affinity/need, tend to approach those who somehow have the resources, capacity or willingness to make their routines less dense and who are open to dialogue, partnerships and interdisciplinary action, from the perspective of thinking/building together strategies aimed at meeting the demands of users.

Furthermore, it should be noted that the PHC field is dynamic and that the exported social network portrays the present moment. If further studies are carried out in the same scenario, they will certainly identify another reality. It is pointed out as a limitation of the article the fact that it did not involve care coordination strategies. This, in association with the generated social network, could bring new elements of analysis, enabling more significant findings.

## REDES SOCIAIS E COORDENAÇÃO DO CUIDADO EM SAÚDE DE USUÁRIOS COM HIPERTENSÃO E DIABETES MELLITUS

#### **RESUMO**

Objetivo: compreender como as posições e interações de profissionais influenciam na coordenação do cuidado em saúde dos usuários com hipertensão arterial e diabetes mellitus. Método: estudo de natureza descritiva, com abordagem quantitativa, no qual participaram 12 profissionais de saúde de uma unidade de Atenção Primária à Saúde de um município da região do Médio Paraíba no Rio de Janeiro, delineado pela metodologia de análise de redes sociais. Resultados: apesar da presença de todos os atores no sociograma, a dinâmica entre eles emergiu como sendo baixa, o que pode acarretar em comunicação pouca efetiva e presença de interações externas à unidade de saúde na tentativa de garantir a coordenação do cuidado. Por sua vez, a maior ênfase identificada no sociograma dada aos médicos e enfermeiros pode estar relacionada ao lugar que ocupam na assistência, na organização e na gestão do serviço. Conclusão: a coordenação do cuidado está diretamente relacionada à assistência ao indivíduo de forma ininterrupta, com garantia de acesso e integralidade da atenção. A baixa dinâmica e a maior ênfase no sociograma sobre os atores de nível superior corroboram para necessidade de maior integração entre os profissionais e reflexão sobre o papel da Atenção Primária à Saúde na coordenação do cuidado em saúde.

Palavras-chave: Atenção Primária à Saúde. Redes Sociais. Longitudinalidade do Cuidado. Hipertensão Arterial. Diabetes Mellitus.

## REDES SOCIALES Y COORDINACIÓN DEL CUIDADO EN SALUD DE USUARIOS CON HIPERTENSIÓN Y DIABETES MELLITUS

## **RESUMEN**

**Objetivo**: comprender cómo las posiciones e interacciones de profesionales influyen en la coordinación del cuidado en salud de los usuarios con hipertensión arterial y diabetes mellitus. **Método**: estudio de naturaleza descriptiva, con enfoque cuantitativo, en el cual participaron 12 profesionales de salud de una unidad de Atención Primaria de Salud de un municipio de la región del Médio Paraíba en Rio de Janeiro/Brasil, trazados por la metodología de análisis de redes sociales. **Resultados**: pese la presencia de todos los actores en el sociograma, la dinámica entre ellos se presentó como siendo baja, lo que puede acarrear en una comunicación poca efectiva y presencia de interacciones externas a la unidad de salud en el intento de garantizar la coordinación del cuidado. A su vez, el mayor énfasis identificado en el sociograma dado a los médicos y enfermeros puede estar relacionado con el lugar que ocupan en la asistencia, la organización y la gestión del servicio. **Conclusión**: la coordinación del cuidado está directamente relacionada a la asistencia al individuo de forma ininterrumpida, con garantía de acceso e integralidad de la atención. La baja dinámica y el mayor énfasis en el sociograma sobre los actores de nivel superior corroboran para la necesidad de mayor integración entre los profesionales y reflexión sobre el papel de la Atención Primaria de Salud en la coordinación del cuidado en salud.

**Palabras clave**: Atención Primaria de Salud. Redes Sociales. Longitudinalidad del Cuidado. Hipertensión Arterial. Diabetes Mellitus.

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