

ORIGINAL ARTICLE

PERMANENT EDUCATION IN HEALTH AND KNOWLEDGE MANAGEMENT: INITIATIVES IN THE REGIONAL HEALTH SUPERINTENDENCE*

HIGHLIGHTS

1. Knowledge is perceived as thoughtful and transformative information.
2. Permanent Education in Health aims at listening, exchange and involvement.
3. Knowledge Management is a tool and an instrument of everyday life.
4. Knowledge Management eases Permanent Education in Health.

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ABSTRACT

Objective: to provide the Permanent Education in Health and Knowledge Management actions carried out at the Regional Health Superintendence of Minas Gerais – Brazil, and to reflect on the possible parallels. **Method:** this is a qualitative and exploratory study conducted with 10 health workers. Data collection took place from February to May 2021 using a remote instrument prepared via *Google Forms*, and analyzed according to Bardin's Thematic Content Analysis technique. **Results:** there are formal and informal training and knowledge sharing processes, construction and transformation of work processes, as well as fragmentation, sectorization and competitiveness based on information. **Conclusion:** the results have the potential to stimulate discussion about the various knowledge movements in the health regions, attentive to the elaboration and implementation of state and regional Permanent Health Education and Knowledge Management plans conceptually aligned and committed to the territory.

DESCRIPTORS: Continuing education; Knowledge management; Health management; Nursing; Qualitative research.

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INTRODUCTION

In the Unified Health System (*Sistema Único de Saúde, SUS*) and through the National Policy for Permanent Health Education (*Política Nacional de Educação Permanente em Saúde, PNEPS*), Permanent Education in Health (PEH) is referred to as the health education strategy for its workers¹. The PNEPS makes it possible to rethink and act on the strategic actions associated with Knowledge Management (KM) to conduct processes and knowledge flows among health workers.

The PEH policy is both a reflection and reflects the SUS trajectory, composing democratic leading roles of social participation and regional management, shared with health actions and services, amid the party-political conventions of financial dismantling, privatization of management and precariousness of the working conditions in health².

To face the intermediate and unequal PNEPS implementation situation, it becomes necessary to act on the following set of problems indicated from regional workshops in 2017, by managers and technicians involved with PEH: policy management; funding; training model; infrastructure of the Permanent State Commission for Teaching-Service Integration (*Comissão de Integração Ensino-Serviço, CIES*); the PEH concept; and monitoring and evaluation of PEH actions³.

As a possibility of confronting the aforementioned conditions, KM is incorporated, understood as the process of coordinating in a systematic and integrated way the knowledge flow in an organization, for the sake of work⁴. In Brazil, the Knowledge Management Model for Brazilian Public Administration (*Modelo de Gestão do Conhecimento para a Administração Pública Brasileira, MGCAPB*)⁵ was developed through the Institute of Applied Economic Research (*Instituto de Pesquisa Econômica Aplicada, IPEA*). This model guided the implementation in the Minas Gerais (MG) government between 2011 and 2014, establishing the Knowledge Management Policy in the state, aggregating contributions in organizational policies, as well as in the knowledge sharing culture⁶.

In an evaluation of the KM level at the health department of a municipality from Minas Gerais, the result indicated incipience in the constructs, leveling the experience of the municipality to knowledge management⁷. In addition, the state stood out for approving the State Plan for Permanent Health Education (*Plano Estadual de Educação Permanente em Saúde, PEEPS*) in 2018, after joining the Program for Strengthening Permanent Education in Health Practices in the SUS (PRO PEH-SUS). However, it lacks Regional Plans for Permanent Health Education (*Planos Regionais de Educação Permanente em Saúde, PREPS*), an important guide for regional PEH planning⁸.

That said, the following question is formulated: How do PEH and KM relate to a Minas Gerais Regional Health Superintendence? Thus, the objective of this study is to provide PEH and KM actions carried out at the Regional Health Superintendence of Minas Gerais – Brazil, as well as to reflect on the possible parallels.

METHOD

The study was of the qualitative and exploratory type, focused on understanding and interpretation of the meanings of the findings, aware of the subjectivities and intentionalities of this type of research⁹. It originates from an MSc thesis in Nursing, restricted to full availability until February 2024.

The scenario was a Regional Health Superintendence (*Superintendência Regional de Saúde, SRS*) which, as a subtype of Regional Health Unit (*Unidade Regional de Saúde, URS*),

has the following competencies: “[...] to manage, implement and monitor health policies and actions within its scope, strengthening the SUS-MG regional governance [...]”^{10:3}.

The SRS is located in a reference municipality that plays a dual role in health management, encompassing a Macro-region with 1,500,000 inhabitants and eight Micro-region Hubs, and a Micro-region Hub, including 500,000 inhabitants and 11 municipalities¹⁰.

Health workers active in the SRS, with Complete Higher Education and who perform management activities were included. In turn, those on leave or vacation during the data collection period were included. Selection of professionals with this training level is due to the premise of Higher Education with social responsibility, the training of autonomous, critical, reflective and socially participating professionals¹¹.

The participants were selected after presentation of the research by the researcher, and the authorization of the Minas Gerais State Health Department (*Secretaria de Estado de Saúde de Minas Gerais*, SES/MG) and the Superintendent of the respective SRS, with indication for contact of the Human Resources sector. This sector forwarded to the entire SRS an email message containing the following: text invitation to the research, presentation of the researcher and the link to access the remote data collection instrument.

Data collection was performed through a remote instrument developed in *Google Forms*, in which the researcher had participated in the construction of a similar instrument in a previous research study. Thus, from February to May 2021, 11 responses were obtained, considering only 10 of them due to the absence of complete Higher Education by one of the responding professionals.

The collection instrument was organized with the following structure: presentation of the researcher; contact for support; Free and Informed Consent Form (FICF); demographic, educational and professional data; and eight discursive questions related to the objective. It is noted that access to the questions section was granted after agreeing with the FICF; otherwise, the individuals were directed to a thank you page and the data were not stored. After the entire filling-in process, the respondents had the option to request a copy of the answers by email, automatically forwarded at the end.

Data analysis was guided by Bardin’s Thematic Content Analysis technique¹², proceeding in such a way that, in the pre-analysis phase, the floating reading took place after organizing the answers given by all participants in a *Microsoft Excel* spreadsheet, arranging the instrument questions in columns and the answers in rows.

When proceeding to the “exploration of the material” phase, identifying the Registration Units (RUs) (key concepts) in the answers to the eight central questions and, subsequently, the RUs per participant, the RUs were synthesized for each question. The synthetic RUs were grouped into general terminal categories (*a posteriori*), according to similarities and to the research objective¹².

Finally, in the last phase, inference and interpretation of the categories, it was sought to overcome the immediate meanings, in a comparison against the literature consulted and the existing intersubjectivities, towards the method’s qualitative perspective and framework. In addition to that, it is necessary to highlight that the entire process of exploring the material — categorization — was carried out in a continuous coordination process between the student and the advisor, aiming at consensus and consistency in the process¹². Data saturation was understood from the discussion by Minayo¹³ – of approaching qualitative research to the search for the meaning of the object under study in overcoming quantification of the sample.

The research was approved in 2020 by the Research Ethics Committee of the Federal University of Juiz de Fora under opinion number 4,114,984; and the guidelines for the development of research involving human beings were followed, including substitution of the respondents’ names with a “P” for Participant, followed by the number according to

the order in which the instrument was filled out (examples: "P1", "P2" and "P3")¹⁴.

RESULTS

According to the data collected, it was identified that all participants were cisgender women, seven (70%) white-skinned and three (30%) of mixed race, aged between 36 and 48 years old, nine (90%) with Higher Education in the health area and only one (10%) graduated in Administration. These training levels corresponded to public institutions for nine (90%) participants; whereas one (10%) studied in a private institution; with training time from 11 to 24 years; all have one or more graduate degrees, four (25%) corresponding to the Public Health area, one (6%) to Public Health, three (19%) to Primary Care or Family Health, two (12.5%) to Management and six (37.5%) to other areas.

As for the data analysis technique explained, Chart 1 provides the original questions from the questionnaire, the RU synthesis from the set of RUs corresponding to each participant and the categories achieved, directed to the objective of the article¹¹. Of the categories, the indicated actions stand out, highlighted by the RUs that exemplify them.

Chart 1 - PEH actions, KM and interrelationships. Juiz de Fora, MG, Brazil, 2023

Collection instrument questions	RU regarding the actions	Categories
How different forms of knowledge are used in the SRS	The different knowledge of the SRS is integrated into the work processes, used in the planning and execution of actions, in the technical support to colleagues/exchange of experience between employees, in PEH, in training, in meetings and in counseling for the municipalities	Identification and integration of all the knowledge in the SRS
How is PEH organized and conducted?	PEH: aids/sharing instance/exchanges of Information between employees/hubs/sectors	From the PEH gap to its potential
How is KM present in the SRS?	KM is present in the SRS in the training options carried out by the SES-MG/State, in meetings and exchanges of information, in the construction of internal work processes, and in actions with municipal actors. There is limited KM.	KM and SRS
Which are the (in) compatibilities between PEH and KM?	Compatibility: Through KM, PEH can be achieved, the topics relevant to health education can be listed, and information can be used to transform work processes. PEH can be a strategy for KM, for the efficiency of the organization. They are compatible and complementary. Incompatibility: centralized information, materialization of status or "power". KM guarantees the best results for the company, it can generate competitiveness among the employees. PEH contributes benefits to the company and the workers, not merely results. Fragmented and sectorized interaction.	(In)compatibilities between PEH and KM

Source: Prepared by the authors (2023).

Category I - Identification and integration of all the knowledge in the SRS

The RUs indicate the participants' understanding of the concept and use of knowledge in the SRS.

It's information that generates some repercussion in life, in daily life, in the way of acting. (P1).

It's the act of knowing, perceiving or understanding through experience or reason. (P3).

Skills that the employees bring with them, which are applied in daily work, training carried out and, above all, with the exchange of experiences between the employees. (P7).

Category II - From the PEH gap to its potential

The RUs highlight the PEH actions in the SRS, based on the organization and potential.

We received invitations to participate in technical meetings and training options organized by the central level. (P10).

Currently I see PEH in the SRS more on behalf of the employees themselves, who create the spaces for discussion and exchange of experiences than encouraged or even coordinated by the state. It's fragmented, but we have access to a lot of information. (P5).

We don't have institution of the permanent education policy in the SRS, a few years ago we had some initiatives that didn't progress [...], that is, we have little space for permanent education, discussion of work processes and very little about the health policy itself. (P6).

When they occur in a shared way between hubs or EPGs, it broadens the perspectives and provides greater discussion, in addition to easing applicability of what is discussed in the municipalities. (P4).

If we had the space for permanent education in the SRS, I believe that we could share our knowledge among employees, minimize existing conflicts, align our strategies and discuss health policies and be less alienated. (P6).

Category III – KM and SRS

The RUs point out the KM understandings and actions in the SRS.

[...] process of creation, sharing and information of a specific group, in order to optimize and improve performance of this group. (P6).

Ability to gather the different knowledges in order to put into practice what is built. (P9).

Knowledge management, directing and prioritizing. (P10).

Sometimes we have moments to share ideas so that we can optimize our work processes, but not well structured and with the SES/MG guidelines. (P6).

The data obtained in monitoring/follow-up sessions, all the information discussed in team and intersectoral meetings, and the various exchanges of information that take place in the management spaces, serve as a basis for the actions to be carried out in the territory, for the planning of actions and new guidelines and direction to the actors that make up the health network. (P5).

Category IV - (In)compatibilities between PEH and KM

In the following RUs, the participants point out the relationships perceived between PEH and KM in the SRS.

For the necessary Permanent Education to become a reality, KM within an organization must be efficient. (P3).

Difficult, sharing knowledge, oftentimes information is centralized, as if it was a materialization of "power" or status. (P4).

KM as a tool to achieve good quality and really effective PEH in the use of information to transform the work processes. They're compatible. (P5).

I think that KM is more related to ensuring the best results for the company, which can generate competitiveness and friction among the employees. On the other hand, Permanent Education would bring about benefits both to workers and to the company, aiming not only at the company's results. (P6).

DISCUSSION

In the context of the actions is the participants' understanding of knowledge and its integration into the SRS environment. The professionals perceive knowledge as reflected information, therefore, not only understood but also subjected to transformation. It interacts with the training processes, with the experiences, at moments of support, sharing and resolution of conflicts between the employees. It also acts in the mobilization for performing the work to be done, from planning to execution and articulation with the municipalities.

In the glossary published by the specific Ministry of Health on KM, information is referred to as the core of knowledge, enabling data interaction and understanding. Knowledge itself is understood as the mediation of information with one's own experiences and skills for the benefit of decision-making. In addition to that, in the professional context, knowledge turns to the need to perform the work to be done¹⁵.

In another approach, Hirotaka and Takeuchi proposed the Theory of Knowledge Creation: a dialectical spiral that synthesizes the contradictions arising from the interaction between people and environments (as well as the organization). Thus, tacit knowledge is fostered in individuals from the shared interaction of everyday life that, when rationalized by the subject for sharing with the group, materializes in explicit knowledge. Explicit knowledge (also inter-organizational) can be systematized in the organization and applied by individuals in tasks, facing new transformations and possibilities of conversion into tacit knowledge¹⁶.

It is possible to draw a parallel with the participants' definition of knowledge and application in the work performed in the SRS, highlighting the sharing moments, even the non-systematized moments, as fundamental in the relationship of the diverse knowledge found in the SRS and in the link with the municipalities.

When taking the discussion to PEH in the SRS, we can immediately perceive certain criticism of the participants to their organization, pointing out the lack of structure, incentive and the circumstances in which the practices are carried out. However, it is possible to achieve what the PEH practice is enhancing in the SRS, such as favoring access, exchange and integration among the employees.

The PEH gap shows the management and intersectoral articulation, expressed by the SES/MG with PEH in the SRS, as well as articulation of the actions with the work demands when involving the SRS sectors. These conflicts are close to what was found

in the analysis of the Brazilian PEEPS, which, in addition to centrality of the educational character in universality, the political-managerial component is still little explored in the Southeast Region¹⁷.

However, from research studies carried out in the MG Municipal Health Departments, it is noticed that the PEH practices can be observed for their qualifying potential regarding the actions and services provided and the promotion of the continuous problematization of the service by its health workers. Although the systematization and indication of training or qualification actions as representative of PEH is incipient, it is necessary to exceed the judgmental character to recognize the following: the PNEPS proposal is for the rupture, transformation and active reconstruction of work processes in the SUS, in a historical and social confrontation process and, therefore, dialectical and intrinsic to the local context¹⁸⁻¹⁹.

By aligning with the understandings of constant PEH (re)construction and by asking the participants how all the knowledge circulating in the SRS is related to PEH, the transformative potential of knowledge in everyday learning practices perceived in the function of regional management is explored.

Thus, simultaneously, there are criticisms about the way in which PEH takes place in the SRS, perceived in the assessments about the specific, sporadic and disjointed actions of the sectors. Even if there is no consensus on where it should be developed (with due appreciation of meetings, training options and virtual spaces), what is expected is revealed by driving the effective implementation of PEH, that is, opportunities for sharing, listening, exchange and involvement between employees from different sectors of the instance to improve work management.

The starting point is the reflection on PEH in the SRS to focus on KM from the perspective of the findings, indicated as a resource or action that uses knowledge. In the experience of the Minas Gerais Knowledge Management Policy, it was possible to see progress in the sharing culture and adherence in the KM employees' discourse. During that period, the policy development initiative was linked to the elaboration of Strategic Plans for the bodies of the Direct, Autarchic and Foundational Administration of the State Executive Branch, which includes the SES/MG⁶.

It is close to what Batista^{5,7} argued for the need to guide KM in public administration through its own models, meeting the need for public organizations to provide immediate results for the employees and final results in "the citizen-user and society" centrality, considering the articulation of diverse inter-organizational knowledge.

In the SRS practice, it is observed that KM is conceived as a tool/instrument oriented towards daily intra-organizational work — aiming at the actions to be carried out and learning on the job —, not associated with a strategy or execution plan.

The similarity between the expositions on PEH and KM in the SRS is considered, an instance located in a state with established policies, although not mentioned by the participants. Therefore, implementation does not emerge in the findings, raising questions about the relationship between health workers in Minas Gerais and the state policies; the source types of knowledge mobilized at work; and the construction of health management work.

Although the participants failed to mention the Minas Gerais KM policy, three have worked in the SRS since 2008, a period that coincides with articulation of the policy between 2011 and 2012, making it possible for further investigating articulation of this policy in the SRS and the origin of the influences on the KM conception, with employees that have experienced the entire process.

The articulation between PEH and KM was carried out through questioning based on the concepts and practice in the SRS. From the results in this category, it is observed that the compatibilities are centered on the conviction of complementarity, in which KM

can be a facilitator for PEH, in the PEH educational scope, and in the mobilization of information and knowledge for work. In reference to the practice, some incompatibilities are indicated: permeation of centralized and fragmented knowledge across the sectors; and the possibility of knowledge being used to foster competitiveness and power for the benefit of some workers.

It reflects the concepts of learning that guide KM, particularly considering the policy developed in the state of MG. From the perspective of the PNEPS legislation, it is worth remembering that health management is included in the renegotiation of planned health education actions, through collegial and shared management and as a local-regional driver. To this end, co-participation of those involved in PEH is assumed as subjects who debate, modify, transform and, therefore, also promote workers' training and development¹.

In the Minas Gerais Knowledge Management Policy and in the model of its origin, the following are indicated as part of the process: individual and team learning and innovation; the organizational aspect; and the "[...] increase in social capacity", in addition to the adoption of participatory measures to conduct the KM process in favor of more transparent, qualified public management and in the best interests of society^{5-6:68}.

However, although the use of "learning" is recurrent in the MGCAPB text, there is no indication of a conceptual framework. In approximation, Corporate Education appears in its glossary, defined as "continuing education processes" centered on updates^{5:78}.

In view of this, when resuming the Minas Gerais Knowledge Management Policy it is necessary to investigate whether the link with the MGCAPB extends to the perception of Corporate Education and Organizational Learning, given the importance of indicating the development of sectoral KM plans, as in the SES/MG. The aforementioned realizing the need not only to discuss the incorporation of KM in public health management, but also to contemplate epistemological-pedagogical perspectives and conceptions congruent with other previously adopted public policies, such as the PNEPS.

Based on this reflection, the findings are resumed by indicating the incompatibilities or obstacles between PEH and KM. Conceived from approximations and distances, from limits and potentialities, they express the health work routine, as well as they ease the understanding that thinking about KM strategies, which add to PEH, requires not only acting on perceived difficulties but also providing guidance for the constant strangeness and flow of knowledge.

The imperative recognition of the movement in PEH, already discussed by Merhy and Gomes^{20:16}, is highlighted as something to be overcome in public policies and constituents of "networked intelligence modes". This scenario is in line with what, when proposing their Theory of Knowledge Creation, Takeuchi and Nonaka¹⁶ understand as a dialectical spiral of contradictions arising from the relationship between people (from the same organization or not) and the environment.

The centrality in workers does not lose sight of the awareness and discussion of institutional crossings; therefore, it is not intended to think of them as another instrument/agency possibility to institutionalize and implement public policies, even if established in a 'shared and participatory' mode – limited to competition or equality with private administration (whether in the health sector or not).

The commitment and potential of the work done by the SRS and the employees cannot be simplified, compared or stereotyped. The mobilization, reinvention and resistance capacity is a reflection of the dialectical relationship that the SUS has established for more than 30 years in Brazil, with visibility of the participants' intellectual-experiential background with their work and the SRS.

Development of this research, at the peak of the COVID-19 pandemic, transcended the challenges inherent to carrying out studies, demanding time restrictions due to lack of

knowledge about the pandemic development. The sanitary conditions of the participants and the scenario culminated in an overload of demands and changing work to the “home office” modality, also resulting from the increase in cases in the SRS analyzed. Therefore, the article captures the transition, accumulation and adaptation period of the participants’ work process and the authors conducting the research.

CONCLUSION

It is understood that the fragmented knowledge movements between workers, sectors and/or institutions, for the use of centralization of power and promotion of competitiveness, contrast the PEH precepts and the KM potential in public management, distancing them. However, through KM, PEH favors spaces for sharing and exchanging knowledge among health workers, adding to the educational processes and work behaviors and favoring the need to implement PEH.

These results have the potential to stimulate a discussion about the various knowledge movements in the SRS health region, paying attention to the impacts that certain flows exert on the routine, with the possibility of mediation through tools and strategies (adapted or not) from the Minas Gerais State Knowledge Management Plan. The objective is to deal with the difficulties of sharing knowledge, strengthening intra-organizational work processes and bringing the municipalities closer together – other URs and the SES/MG.

Considering actions based on KM as a PEH aggregator is to consider the construction and implementation, centered on health workers, of regional PEH and KM plans, conceptually aligned and committed to the territory, with the different possible configurations based on the routine, as a possibility to guide the planning, execution and evaluation of the work done by the SRS.

In addition to that, it indicates the relevance of knowing the types of knowledge and their paths in the SUS health sectors and services, as a possibility of contributing to the everyday work actions. It is necessary to review, reflect and strengthen the processes of creation, implementation, evaluation and control of public health policies in MG, so that new policies are developed in congruence and do not become dispersed during their implementation. It becomes indispensable to carry out further research studies on the PEEPS from MG, including preparation of PREPS, in addition to deepening on the current circumstances of the Minas Gerais State Knowledge Management Plan and its relations with the SES/MG.

It is expected that this research will be open to society’s reflection and criticism, taking into account the defense of the SUS, its workers and public health management, especially the URs, which perform essential work related to strengthening and partnering with the municipalities of the territory in the health regions.

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Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work - **Ribeiro DK, Friedrich DB de C.** Drafting the work or revising it critically for important intellectual content - **Ribeiro DK, Friedrich DB de C.** Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved - **Ribeiro DK, Friedrich DB de C.** All authors approved the final version of the text.

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