The International Classification of Public Health Nursing Practices — CIPESC : a pedagogical tool for epidemiological studies

CLASSIFICAÇÃO INTERNACIONAL DAS PRÁTICAS DE ENFERMAGEM EM SAÚDE COLETIVA — CIPESC®: INSTRUMENTO PEDAGÓGICO DE INVESTIGAÇÃO EPIDEMIOLÓGICA

CLASIFICACIÓN INTERNACIONAL DE LAS PRÁCTICAS DE ENFERMERÍA EN SALUD COLECTIVA — CIPESC®: INSTRUMENTO PEDAGÓGICO DE INVESTIGACIÓN EPIDEMIOLÓGICA

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ABSTRACT

The CIPESC® is a tool that informs the work of nurses in Public Health and assists in prioritizing their care in practice, management and research. It is also a powerful pedagogical instrument for the qualification of nurses within the Brazilian healthcare system. In the teaching of infectious diseases, using the CIPESC® assists in analyzing the interventions by encouraging clinical and epidemiological thinking regarding the health-illness process. With the purpose in mind of developing resources for teaching undergraduate nursing students and encouraging reflection regarding the process of nursing work, this article presents an experimental application of CIPESC®, using meningococcal meningitis as an example.

DESCRIPTORS

Classification
Communicable diseases
Meningitis bacterial
Public health
Public health nursing

RESUMO

A CIPESC® é um instrumento de trabalho do enfermeiro em Saúde Coletiva, que visa apoiar a sistematização de sua prática assistencial, gerencial e de investigação. É também, instrumental pedagógico potente para a formação e qualificação de enfermeiros comprometidos com o SUS. No ensino das doenças transmissíveis, o uso da CIPESC® auxilia a análise sobre as intervenções, ao estimular o raciocínio clínico e epidemiológico do processo saúde-doença e das necessidades de saúde dos indivíduos, famílias e grupos sociais. Com o propósito de desenvolver recursos didáticos para graduação de enfermagem e estimular a reflexão sobre o processo de trabalho de enfermagem, este artigo apresenta o relato de uma experiência de aplicação da CIPESC®, tomando como exemplo a meningite meningocócica.

DESCRITORES

Classificação
Doenças transmissíveis
Meningite bacteriana
Saúde pública
Enfermagem em saúde pública

RESUMEN

La CIPESC® es un instrumento de trabajo del enfermero en Salud Colectiva que busca apoyar la sistematización de su práctica asistencial, gerencial y de investigación. Es también un instrumento pedagógico potente para la formación y calificación de enfermeros comprometidos con el SUS. En la enseñanza de las enfermedades transmisibles, el uso de la CIPESC® ayuda al análisis de las intervenciones realizadas, al estimular el razonamiento clínico y epidemiológico del proceso salud-enfermedad y de las necesidades de salud individuales, familiares y sociales. Con el propósito de desarrollar recursos didácticos para el currículo de Enfermería y estimular la reflexión sobre el proceso de trabajo de Enfermería, este artículo presenta el relato de una experiencia de aplicación de la CIPESC®, tomando como ejemplo la meningitis meningocócica.

DESCRIPTORES

Clasificación
Enfermedades transmisibles
Meningitis bacteriana
Salud pública
Enfermería en salud publica

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INTRODUCTION

The Collective Health Nursing Practice Classification (CIPESC®) is a project the Brazilian Nursing Association (ABEn) developed between 1996 and 2000, as the Brazilian contribution to the International Classification of Nursing Practice (ICNP®), which resulted in a vocabulary inventory in Collective Health[1].

In view of the wide range of terms nursing professionals use, CIPESC® is considered a powerful tool for the standardization of Collective Health Nursing (CHN) language, contributing to care systemization.

It represents a means/instrument for nursing work as it systemizes the elements of nursing practice, permitting visibility from a care as well as from a management and research perspective[2-3].

CIPESC® considers that the health-disease process results from the way society is organized and how social groups are reproduced, in terms of their work and living conditions[4]. Thus, the inventory contains terms that can express nursing practices based on this viewpoint.

Besides these aspects, CIPESC® is a powerful pedagogical instrument for the education and qualification of Brazilian nurses committed to the development of the Unified Health System (SUS). Particularly concerning teaching about transmissible diseases (TD) in nursing, the use of CIPESC® can systematically support the proposal of interventions by stimulating the development of clinical and epidemiological reasoning in the analysis of individuals, families and social groups' health-disease process and health needs.

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To develop didactical resources for TD teaching in undergraduate Nursing programs and to stimulate reflection on the nursing care work process in this area, this report describes an experience of applying the CIPESC® in a clinical case of meningococcal disease.

The choice of this case involved the following aspects: epidemiological range in the Brazilian context; severity and dissemination potential of the disease; risk of outbreaks; disease control actions covering the individual, family and social group dimensions; need for contact assessment actions with a view to the indication of prophylaxis and interruption of the transmission chain and involvement of different health services in the health care network, ranging from primary to specialized (outpatient and hospital) care.

APPROPRIATION PROCESS OF A METHOD FOR CIPESC® USE

Researchers and faculty involved in TD have made efforts to improve theoretical-practical contents[5-6] and pedagogical strategies[7] on the theme. With a view to using CIPESC® in TD teaching, in 2009, a work group was created at the University of São Paulo School of Nursing (EEUSP), comprising faculty who teach the undergraduate subject Nursing in Transmissible Diseases and Collective Health, nurses from the Collective Health Nursing Department at EEUSP and nurses from the Primary Health Care Units of *Supervisão de Saúde do Butantã*, affiliated with the São Paulo Municipal Health Secretary, the *Serviço Especial de Saúde de Araraquara*, affiliated with the University of São Paulo School of Public Health and the University of São Paulo Social Service Coordination.

Initially, a specialist offered technical advice to provide foundations on the theoretical, practice and pedagogical use of the CIPESC®. Then, clinical cases of patients with suspected or confirmed TD diagnoses were elaborated. The cases were discussed in the work group, applying a methodological sequence the technical advisor had proposed[1] and using the ICNP® version 2.0[8] and the CIPESC® vocabulary inventory[9].

Based on the case study about meningococcal disease, the applied phases followed eight steps: 1) selection of most relevant expressions, words and information; 2) classification of selected information into potential exhaustion/problems and/or potential strengthening (of individuals, families and social groups); 3) organization of information according to affected and/or involved needs; 4) selection of up to three priority needs for intervention at the start of care and choice of terms on the *Focus* Axis of the ICNP 2.0® (if there is no term capable of representing the nursing care focus in this classification, choose a term from the *Focus* Axis in the CIPESC®) vocabulary inventory; 5) selection of terms from the *Judgment* Axis that are appropriate to the previously selected terms on the *Focus* Axis; 6) construction of the nursing diagnoses' description, using the composition between the *Focus* and *Judgment* terms; 7) description of the expected results, using the same composition of terms, i.e. *Focus* and *judgment* and, 8) elaboration of the list of nursing interventions for each diagnosis.

As for the second step, the concept the work group attributed to potential exhaustion/problems and potential strengthening should be highlighted. These are considered dimensions of the same reality but, for didactical purposes, they are presented separately. As they constitute a dynamic whole/part, depending on the existing condition in the same situation, sometimes this represents a problem, sometimes a potential. Potential exhaustion/problems and potential strengthening express multiple dimensions of reality and refer to the comprehensive conditions of individuals, families and social groups' broad living conditions and the most general structural processes of society[4]. Health needs are understood in the same way. The work group

considers that these are social and historically determined. They take unequal forms in individuals, depending on the place they occupy in social reproduction[10].

In that sense, health needs are needs social life imposes, that is, they are not restricted to needs referring to the biopsychosocial aspects in the individual sphere. This conception is confronted with Nurses' concrete practice at health services, to the extent that, in general, they are based on the response to Basic Human Needs, the conceptual model Wanda de Aguiar Horta developed. Despite its limitations, in this essay, initially, this approach[11] of the affected needs was chosen.

THE APPLICATION OF THE METHOD TO A MENINGITIS CASE

1) Selection of most relevant expressions, words and information

After reading the case attentively, the most relevant expressions, words and information on the time passed from the start of symptoms until the search for care; the main symptoms; information about work and living conditions; possible communicants; health services accessed and others (Chart 1).

Chart 1 – Selection of most relevant expressions, words and information - São Paulo, 2010

Selection of most relevant expressions, words and information in a meningitis case
On a Wednesday afternoon, João got home from work with a strong headache. Thinking he had a flue, he took AAS and went to lie down. João works as a general aid in a construction material deposit and lives in a one-room shack, with a sibling, in a slum, in a peripheral neighborhood of a city in Greater São Paulo, with a Municipal Emergency Service (MES) of easy access. At down, as he wasn't getting better, he went to that service for a medical appointment. The doctor attended him and said he had sinusitis, gave him AAS and sent him home. His sister, who had accompanied him to the doctor, found it better for him to go to her house, a one-room shack in the same slum, where she *lives with her husband and four children*, aged thirteen, ten, nine and four years. On Thursday, as he still wasn't feeling good, João did not go to work and, in the early afternoon, returned to the MES, telling the physician that, at work, he had carried a door on his head and that, since then, he had started to feel pain. The doctor said he had neck pain, prescribed anti-inflammatory medication and sent him home. On Friday, at dawn, João started to vomit and had a stiff neck and returned to the MES for the third time, where the physician who attended him reinforced the hypothesis of neck pain and left him under observation, awaiting a neurology consult. On Friday morning, when the shift changed at the service, the incoming physician examined him and, in view of the clinical situation of headache, nausea, vomiting and a stiff neck, remembered what had been commented during in-service training, about the high incidence of meningitis in the city, which aroused the hypothesis of meningitis. He asked the referral lab for a liquor examination, which tested positively for meningococcal disease. In view of this result, João was forwarded to the hospital, by ambulance, for hospitalization.

In this history, *Mr. João* and his family are part of a given social context of health needs. The classification the nurse used during care should contain the *terms* that are capable of capturing and exposing the potential strengthening and exhaustion that contributed to *Mr. João's* health problem.

2) Classification of selected information into potential exhaustion/problems and potential strengthening

Then, the relevant information was grouped according to potential exhaustion/problems and potential strengthening:

2.1) Potential exhaustion/problems

Strong headache and flu: symptoms of illness; took AAS: self-medication, mainly because it is counter-indicated in the current epidemiological situation of dengue fever; Lives in a one-room shack (...) in a slum: vulnerable place that expresses potential risk situation; Works as general aid: unqualified occupation; Attending physician said he had sinusitis, gave him AAS and sent him home: clinical investigation based only on the patient's referred symptoms; (Sister's) one-room shack in the same slum: unhealthy place and with potential risk situation; (the sister) lives with her husband and four children aged 13, 10, 9 and 4 years: group of people, disease transmission potential; Did not go to work. Returned to the MES (...) physician said he had neck pain (...) anti-inflammatory medication: illness caused absenteeism from work. His problem was not solved, lack of diagnostic investigation, indicates precarious health service quality; Friday at dawn (...) vomiting and stiff neck, returned to the MES for the third time (...) physician reinforced the neck pain hypothesis: lack of diagnostic investigation and professional qualification; Friday morning (...) shift change (...) incoming physician examined him and (...) clinical situation of headache, nausea, vomiting and stiff neck: signs of meningitis; (...) High incidence of meningitis in the city (...): greater risk of infection and epidemiological surveillance error.

2.2) Potential strengthening

Wednesday: useful information to identify the onset of symptoms; Went to lie down: rest; Lives (...) with a brother: has a home and family support; Works: access to income; Easy access to Municipal Emergency Service: availability of health equipment for emergency care and easy access; Sister, (...) had accompanied him to the physician, found it better for him to go to her home: support network; At dawn (...) he went to the MES: autonomy to seek emergency care; Returned to the MES for the third time: availability of health equipment for emergency care and easy access; Forwarded to the hospital by ambulance: availability of removal resource: immediate care; Training (...) raised the hypothesis of meningitis, asking the referral laboratory for a liquor examination, which tested positively for meningococcal disease: assessed by a trained professional, availability of referral laboratory for diagnostic clarifications.

3) Information organization according to affected and/ or involved needs

The third step refers to the organization of the affected and/or involved needs that, in the case under analysis, are classified as:

3.1) Psychobiological – therapeutic need: seek professional help to support health care with a view to health promotion, maintenance and recovery.

Potential exhaustion/problems: Wednesday; strong headache and flu; took AAS; Attending physician said he had sinusitis, gave him AAS and sent him home; Returned to the MES (...) physician said he had neck pain (...) anti-inflammatory medication; Friday at dawn (...) vomiting and stiff neck, returned to the MES for the third time (...) physician reinforced the hypothesis of neck pain; On Friday morning (...) shift change (...) incoming physician examined him and (...) clinical situation of headache, nausea, vomiting and stiff neck.

Potential strengthening: easy access to municipal emergency service; at dawn (...) he went to the MES; Training (...), raised the hypothesis of meningitis, asking the referral laboratory for a liquor examination, which tested positively for meningococcal disease; Forwarded to the hospital by ambulance.

3.2 Psychobiological – sleep and rest need: maintain the natural, periodical and relative suspension of awareness during a certain time of the day; body and mind in state of partial or complete immobility and partially reduced bodily function to obtain restoration.

Potential exhaustion/problems: Thinking he had flu, he took AAS.

Potential strengthening: He went to lie down.

3.3 Psychobiological need – physical safety and environment: maintain an environment free from life-attacking agents to preserve psychobiological integrity.

Potential exhaustion/problems: Lives in a one-room shack (...) in a slum; Sister lives in a one-room shack in the same city with her husband and four children aged 13, 10, 9 and 4 years; High incidence of meningitis in the city.

Potential strengthening: Easy access to Municipal Emergency Service.

3.4 Psychobiological need – neurological regulation: preserve and/or re-establish the functioning of the nervous system to control and coordinate bodily functions and activities and some behavioral aspects.

Potential exhaustion/problems: Friday at dawn (...) vomiting and stiff neck, returned to the MES for the third time (...) physician reinforced the hypothesis of neck pain; Friday morning (...) shift change (...) incoming physician examined him and (...) clinical situation of headache, nausea, vomiting and stiff neck.

Potential strengthening: returned to the MES for the third time; incoming physician examined him.

3.5 Psychosocial need – freedom and participation: act according to one's own determination in an organized society, respecting the limits imposed by defined (social, cultural, legal) standards.

Potential exhaustion/problems: Works as general aid.

Potential strengthening: Works.

3.6 Psychosocial need – gregarious: living in a group to interact with others and perform social exchanges.

Potential exhaustion/problems: Sister lives with her husband and four children aged 13, 10, 9 and 4 years in a shack.

Potential strengthening: Lives (...) with a brother; Sister, (...) had accompanied him to the physician, found it better for him to go to her home.

3.7 Psychosocial need – love and acceptance: having feelings and emotions towards people in general in order to be accepted and integrated into groups, having friends and family.

Potential exhaustion/problems: none

Potential strengthening: Lives (...) with a brother; Sister, (...) had accompanied him to the physician, found it better for him to go to her home.

The Basic Human Needs analysis revealed that social needs are diluted as a whole and, to cover the range of practices, other reference frameworks, like Collective Health, need to be incorporated, which considers TD prevention and control policies, reflecting the State's presence.

4) Selection of up to three priority needs for intervention at the ideal moment in care

In the fourth step of the method (Figure 2), up to three needs have to be prioritized for intervention during the first care delivered. In the reported case, therapeutic, physical safety and environment and neurological regulation needs were identified. The work group reached a consensus on the needs chosen, considering the priority for initial care delivery to "Mr João" and the urgency demands in terms of potential disease transmission.

To construct interventions beyond the list made available in the CIPESC® inventory, International Organization of Standardisation - ISO standard 18.104/2003 was used as the base, which guarantees the use and articulation of the Nursing terminology with other health professionals, contributing to the advancement of electronic records[12].

The axis *focus on practice – relevant care area for nursing* is the same for the therapeutic health and neurologi-

cal regulation needs. The axis *judgment – clinical opinion or determination related to the focus on nursing practice,* in turn, is limited to physical safety and environment, as indicated in Chart 2.

Chart 2 – Selection of up to three priority needs for intervention at the ideal time of care, based on the terms in the "Focus on practic" and "Judgment" axes, according to ICNP® version 2.0 - São Paulo, 2010

Psychobiological needs	"Focus on practice" axis	Judgment
Therapeutic	Process: impaired	Progress: started
Neurological regulation	Process: pathological infection	Progress: started
Physical safety and environment	Process: pathological cross-infection	Potential: risk

5) Construction of nursing diagnoses, description of expected outcomes and elaboration of list with nursing interventions for each diagnosis

The nursing diagnoses represent the users' condition with their problems, needs and potentials[9]. Concerning the construction of the Nursing Diagnoses and Outcomes, the ICNP® suggests the inclusion of a term for the Focus on Practice Axis and one term for the Judgment Axis. In that sense, the Expected Outcome will be the measure or condition of a diagnosis, in a time interval, after an intervention. In the construction of the Nursing Intervention, one term should be included for the Action Axis and terms for any other axis, except for the Judgment Axis, with a view to producing an outcome.

As shown in Figure 3, this is a systemization of nursing knowledge, aiming to propose intervention. The use of a classification of terms and the CIPESC® inventory, as the base to name nursing diagnoses, supports clinical reasoning and permit a broad view on care, concerning patients and the group they belong to. Thus, the activity perspective should not be lost in the other dimensions of the objective reality, which refer to the private dimension – the way work and life are reproduced – and in the structural dimension, in this case referring to the contribution to the reorganization of practices in the health services *Mr. João* has visited.

Figure 3 – Construction of nursing diagnoses, description of expected outcomes and elaboration of list with nursing interventions for each diagnosis - São Paulo, 2010

Nursing diagnosis	Expected outcome	Nursing interventions
Infection process started	Infection process interrupted	Assess the need for isolation of Mr. João due to precaution because of droplets during hospitalization; Identify family contacts; Offer information on the disease and treatment to Mr. João; Offer information on disease symptoms to the family of Mr. João; Administer indicated antibiotics to Mr. João; Identify contacts in the MES environment; Notify epidemiological surveillance; Perform chemoprophylaxis of intimate contacts; Assess need for vaccination to control outbreaks S/N.
Risk for cross-infection	Cross-infection process interrupted	Perform concurrent and terminal disinfection due to respiratory secretions and objects contaminated during the hospitalization period.

CONCLUSION

The work group's limitations were related to the lack of skills to put in practice the CIPESC® classification, which demanded significant time to agree on the pertinent nomenclature, indicating that this process should be continuous with a view to greater depth.

The use of the CIPESC® inventory and the INCP® permitted the identification of the health needs directly linked with *Mr. João* and work in networks, besides the detection of aspects that need reorganization in the health production process.

The use of the CIPESC® guides the elaboration of nursing care standards, furthering their universal application by nurses. This standardization offers agility and readiness in the definition of diagnoses and interventions, besides permitting nursing care quality assessment and the use of a common repertoire that offers the possibility of dialogue in the international context, despite distinct cultural, social and health contexts. It also permits interlocution with other team members through the use of technical terms that are current in the health area.

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