

Relationship between elderly stroke patient caregivers scale and nursing diagnoses

Relação entre escala epicid-avc e diagnósticos de enfermagem da NANDA-I
Relación entre escala epicid-avc y diagnósticos de enfermería de NANDA-I

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ABSTRACT

Objective: To describe relationships between the ECPCID-AVC scale factors and the NANDA-I domains, classes, and Nursing Diagnoses (NDs). **Method:** Cross-mapping study between the NANDA-I taxonomy and ECPCID-AVC scale was constructed based on the eight ECPCID-AVC scale factors and the 13 NANDA-I domains. A descriptive analysis was performed to present the mapped elements. **Results:** Areas of similarity and intersection were found between the eight ECPCID-AVC factors and nine NANDA-I domains, 19 classes, and 72 NDs. All scale factors were mapped with the Domain 1/ Health Promotion, Class 2/Health Management and the ND "Frail elderly syndrome". **Final considerations:** The ECPCID-AVC scale factors were mapped with nine domains, their classes and diagnoses. This study demonstrates the importance of identifying nursing diagnoses and their relationship with factors that evaluate caregiving capacity. The ECPCID-AVC can help nurses generate nursing diagnoses regarding the caregiver's needs and their capacities related to care to focus such needs.

Descriptors: Aged; Caregivers; Home Care Services; Nursing Diagnosis; Stroke.

RESUMO

Objetivo: Descrever como os fatores da escala ECPCID-AVC se relacionam com os domínios, as classes e os Diagnósticos de Enfermagem (DE) da NANDA-I. **Método:** Estudo de mapeamento cruzado entre os oito fatores da escala ECPCID-AVC e os 13 domínios da taxonomia NANDA-I. Realizou-se análise descritiva para apresentar os elementos mapeados. **Resultados:** Identificadas áreas de similaridade e interseção entre os oito fatores da escala e os nove domínios da NANDA-I, bem como entre esses fatores e 19 classes e 72 DEs. Todos os fatores da escala foram mapeados com o Domínio 1/Promoção da Saúde, Classe 2/Controle da Saúde, e o DE "Síndrome do idoso frágil". **Considerações finais:** Os fatores da escala ECPCID-AVC foram mapeados de acordo com os nove domínios da NANDA-I, respectivas classes e diagnósticos. Este estudo demonstra ser importante que os enfermeiros compreendam como os DEs se relacionam com os fatores que avaliam a capacidade de cuidar de um idoso dependente por acidente vascular cerebral, pois isso permitirá o estabelecimento de diagnósticos mais adequados às necessidades do cuidador e condizentes com sua capacidade de oferecer este cuidado. **Descritores:** Diagnóstico de Enfermagem; Cuidadores; Serviços de Assistência Domiciliar; Idoso; Acidente Vascular Cerebral.

RESUMEN

Objetivo: Describir cómo los factores de la escala ECPCID-AVC se relacionan con los dominios, las clases y los Diagnósticos de Enfermería (DE) de la NANDA-I. **Método:** Estudio de mapeo cruzado entre los ocho factores de la escala ECPCID-AVC y los 13 dominios de la taxonomía NANDA-I. Se llevó a cabo un análisis descriptivo para presentar los elementos mapeados. **Resultados:** Se identificaron las áreas de similitud e intersección entre los ocho factores de la escala y los nueve dominios de la NANDA-I, así como entre estos factores y 19 clases y 72 DEs. Todos los factores de la escala se mapearon con el Dominio 1/Promoción de la Salud, Clase 2/Control de la Salud, y el DE "Síndrome del anciano frágil". **Consideraciones finales:** Se asignaron los factores de la escala ECPCID-AVC de acuerdo con los nueve dominios de la NANDA-I, sus clases y diagnósticos. Este estudio demuestra ser importante para que los enfermeros entiendan cómo los DEs se relacionan con los factores que evalúan la capacidad de cuidar de un anciano dependiente por accidente cerebrovascular, por lo que permitirá el establecimiento de diagnósticos más adecuados a las necesidades del cuidador y condizentes con su capacidad de ofrecer este cuidado.

Descriptorios: Diagnóstico de Enfermería; Cuidadores; Servicios de Atención de Salud a Domicilio; Anciano; Accidente Cerebrovascular.

INTRODUCTION

Annually, nearly 15 million people suffer strokes around the world⁽¹⁾. Of these, approximately 5 million are left with sequelae, which have a major impact on health services, society, and families⁽¹⁾. In the United States, nearly one-fourth of strokes occur in people under the age of 65⁽²⁾. Similarly, in Brazil, in 2017, there were 152.045 hospitalizations for stroke treatment, with older adults accounting for 109.238 (71.8%)⁽³⁾.

In Brazil, after a stroke patient is discharged from hospital, care for the stroke survivor is usually provided by families who typically have restricted support networks and are often socioeconomically disadvantaged. The family has to manage aspects related to aging which are often aggravated by limitations arising from a stroke, including functional capacity and body image, and also assisting with rehabilitation and self-care⁽⁴⁾. Caregivers may also experience insecurities related to caregiving and social isolation. These changes could lead to early hospital re-admission⁽⁵⁾.

Informal caregivers need guidance and supervision from nursing professionals, as family care plays a crucial role in whether or not the patient can readapt to the home environment⁽⁵⁻⁶⁾. Little is known about the actual capacities of informal caregivers. Additional research is needed to understand the extent to which caregivers are qualified to care for family members, as well as caregivers' own issues and concerns.

In this context, the Capacity Scale for Informal Caregivers of Dependent Elderly Stroke Victims (*Escala de Capacidades do Prestador Informal de Cuidados de Idosos Dependentes por AVC*, ECPCID-AVC) is an instrument designed to objectively evaluate the capacities of informal caregivers of elderly adult stroke survivors. The ECPCID-AVC was developed and validated by Portuguese researchers, based on the Nursing Interventions Classification (NIC) and related existing research literature⁽⁷⁻⁹⁾. A focus group with nine expert nurses and research literature reviews about the capacities of informal caregivers led us to identify preliminary capacity dimensions. Items that expressed the greatest relationship with these dimensions were defined using the Nursing Interventions Taxonomy (NIC)⁽⁷⁻⁹⁾. The ECPCID-AVC has since been adapted and validated for use in Brazil⁽¹⁰⁾. Accordingly, item-to-factor loadings range from 0.525 to 0.924, and there is evidence of strong internal consistency (ICC = 0.94, 95% CI) and homogeneity (Cronbach's Alpha = 0.914).

The ECPCID-AVC scale covers eight factors: capacity to provide feeding/hydration via a nasogastric or gastrostomy tube; assisting with personal hygiene; assisting with transfer; assisting with positioning; providing technical assistance; assisting with bathroom use; feeding/hydrating; and assisting with dressing and undressing. In studies of informal caregivers of dependent older adult stroke survivors, the ECPCID-AVC has exhibited acceptable internal consistency⁽⁸⁻⁹⁾.

The purpose of the ECPCID-AVC scale is to identify areas of caregiver uncertainties. To do this, the nurse should first make a critical judgment about actual responses to health conditions/life process/vulnerability of the elderly adult patient after stroke. The other purpose of the ECPCID-AVC is to identify areas for caregiver education. This requires transposing scale factors of care to prepare the caregiver within the specific context of

patient-related nursing diagnoses (NDs). NANDA International (NANDA-I) is one of the most commonly standardized nursing diagnoses terminology nomenclatures⁽¹¹⁾.

The ECPCID-AVC scale was developed using the NIC⁽⁸⁻⁹⁾. The aim of this study is to build further knowledge about other NANDA taxonomy elements. Accordingly, we ask: how do the eight ECPCID-AVC scale factors relate to NANDA-I NDs. This requires describing relationships between the ECPCID-AVC scale factors and the NANDA-I domains, classes, and NDs that are relevant to family caregivers and to family care recipients. Descriptive nursing care planning work is important. In Brazil, patients and families do not always receive follow-up from health professionals after a hospital discharge. There is also very little support for patients and their caregivers, such as outpatient or home care services. Home support programs that are in place are not available to the entire population.

OBJECTIVE

To describe relationships between the ECPCID-AVC scale factors and the NANDA-I domains, classes, and Nursing Diagnoses (NDs).

METHOD

Ethical aspects

This study is part of a larger study approved by the Research Ethics Committee of the Hospital de Clínicas of Porto Alegre (CEP HCPA, No. 160580).

Type of study

This study uses a cross-mapping design: a method developed to identify and compare similar data across nursing classifications and existing information in order to validate objects of study in different contexts⁽¹²⁻¹³⁾.

Methodological procedures

The general rule of cross-mapping for this study was to seek not only exact synonyms, but also similar meanings between ECPCID-AVC scale care factors and the NANDA-I taxonomy domains, classes, and NDs. The mapping process was focused on identifying NDs related to the specific needs of elderly adults after a stroke for which caregiver support is required.

Collection and organization of data

The ECPCID-AVC scale was mapped on to the NANDA-I taxonomy in order to identify similarities (or the lack thereof) between them. NANDA-I taxonomy consists of hierarchical levels with 13 domains of nursing care, with these domains being further categorized into 47 classes and 234 nursing diagnoses. Each domain and class contains nursing diagnoses that share similar properties that cluster them together into one group⁽¹¹⁾. Then, researchers navigate from a 'domain' to a 'class' and then to 'diagnoses within a particular class'. Each nursing diagnosis or ND also has a set definition and set list of defining characteristics and related risk factors. Cross-mapping

helps researchers identify similarities between an object of study (in our case, this object is the ECPCID-AVC scale) and each successive element of NANDA-1 taxonomy⁽¹²⁻¹⁴⁾. Cross-mapping also requires that researchers draw upon existing research literature to further support any similarity claims.

Stages of work

The study was divided into three stages: 1) reading of each ECPCID-AVC scale care factor; 2) reading of each NANDA-I domain, class, and NDs; 3) mapping of each of the ECPCID-AVC factors and NANDA-I domains, classes, and NDs, seeking similarities and intersections between them. The mapping itself was performed by the first and second authors, considering the components of each of the ECPCID-AVC factors and the definition, defining characteristics, related factors, or risk factors of each NANDA-I NDs. The first two authors reviewed the mapping among themselves. Afterwards, the final author reviewed and approved the cross-mapping. This stage took three months to be completed, reviewed, and approved.

Data analysis

A descriptive analysis was then carried out to present the findings of the cross-mapping process.

RESULTS

The cross-mapping process revealed similarities between all eight ECPCID-AVC factors with nine domains (1-Health Promotion; 2-Nutrition; 3-Elimination/Exchange; 4-Activity/Rest; 5-Perception/Cognition; 7-Role Relationship; 9-Coping/Stress Tolerance; 11-Safety/Protection; and 12-Comfort), and 19 classes and 72 NDs of the NANDA-I taxonomy.

Four NANDA-I domains were not mapped with the ECPCID-AVC scale. Non-mapped domains were: Self-Perception, Sexuality, Life Principles, and Growth/Development. All eight ECPCID-AVC care factors were mapped in Domain 1-Health Promotion and Class 2- Health Management, as well as within the ND of "Frail elderly syndrome (00257)". ECPCID-AVC care factors were related to 72 (31.9%) of the 234 NANDA-I NDs (see Chart 1).

Chart 1 - Summary of ECPCID-AVC factors with the respective mapped nursing diagnoses, Porto Alegre, Rio Grande do Sul, Brazil, 2018

ECPCID-AVC factor	Domains, classes and nursing diagnoses mapped with similarity		
Capacity to feed/hydrate via nasogastric/gastrostomy tube	DOMAIN 1: Health Promotion <u>Class 2: Health Management</u> -Frail elderly syndrome (00257) -Ineffective protection (00043)	-Dysfunctional gastrointestinal motility (00196) -Risk for dysfunctional gastrointestinal motility (00197)	DOMAIN 11: Safety/Protection <u>Class 1: Infection</u> -Risk of infection (00004) <u>Class 2: Physical Injury</u> -Risk of aspiration (00039) -Risk of injury (00035) -Risk of shock (00205) -Impaired skin integrity (00046) -Risk of impaired tissue integrity (00248) -Risk of impaired skin integrity (00047) -Risk of pressure ulcer (00249) -Impaired oral mucous membrane (00045) -Impaired dentition (00048) -Risk of impaired oral mucous membrane (00247) -Risk of falls (00155) <u>Class 6: Thermoregulation</u> -Hyperthermia (00007) -Risk of imbalanced body temperature (00005)
	DOMAIN 2: Nutrition <u>Class 1: Ingestion</u> -Imbalanced nutrition, less than body requirements (00002) -Readiness for enhanced nutrition (00163) -Obesity (00232) -Overweight (00233) -Risk for overweight (00234) -Impaired swallowing (00103)	DOMAIN 4: Activity/Rest <u>Class 2: Activity/Exercise</u> -Impaired wheelchair mobility (00089) -Impaired standing (00238) -Impaired physical mobility (00085) -Impaired bed mobility (00091) <u>Class 3: Energy Balance</u> -Fatigue (00093) <u>Class 4: Cardio-Pulmonary Responses</u> -Risk of ineffective renal perfusion (00203) -Risk of decreased cardiac tissue perfusion (00200)	
	DOMAIN 3: Elimination/Exchange <u>Class 2: Gastrointestinal System</u> -Diarrhea (00013) -Constipation (00011) -Chronic functional constipation (00235) -Risk of chronic functional constipation (00236)	<u>Class 5: Self-care</u> -Feeding self-care deficit (00102) DOMAIN 5: Perception/Cognition <u>Class 4: Cognition</u> -Risk of acute confusion (00173)	
Capacity to assist with personal hygiene	DOMAIN 1: Health Promotion <u>Class 2: Health Management</u> -Frail elderly syndrome (00257) DOMAIN 3: Elimination/Exchange <u>Class 2: Gastrointestinal System</u> -Bowel incontinence (00014)	DOMAIN 4: Activity/Rest <u>Class 5: Self-Care</u> -Bathing self-care deficit (00108) -Self-neglect (00193) -Toileting self-care deficit (00110) DOMAIN 11: Safety/Protection <u>Class 4: Environmental Hazards</u> -Risk of contamination (00180)	

To be continued

Chart 1

ECPICID-AVC factor	Domains, classes and nursing diagnoses mapped with similarity		
<p>Capacity to assist with transfers</p>	<p>DOMAIN 1: Health Promotion <u>Class 2: Health Management</u> -Frail elderly syndrome (00257) -Risk of frail elderly syndrome (00231) DOMAIN 4: Activity/Rest <u>Class 2: Activity/Exercise</u> -Impaired wheelchair mobility (00089) -Impaired transfer ability (00090) -Impaired walking (00088)</p>	<p>-Impaired physical mobility (00085) -Impaired bed mobility (00091) <u>Class 4: Cardio-Pulmonary Responses</u> -Activity intolerance (00092) DOMAIN 5: Perception/Cognition <u>Class 4: Cognition</u> -Risk of acute confusion (00173) DOMAIN 7: Role Relationships <u>Class 3: Role Performance</u> -Impaired social interaction (00052)</p>	<p>DOMAIN 11: Safety/Protection <u>Class 2: Physical Injury</u> -Impaired skin integrity (00046) -Impaired tissue integrity (00044) -Risk of impaired tissue integrity (00248) -Risk of impaired skin integrity (00047) -Risk of pressure ulcer (00249) -Risk of falls (00155)</p>
<p>Capacity to assist with positioning</p>	<p>DOMAIN 1: Health Promotion <u>Class 2: Health Management</u> -Frail elderly syndrome (00257) DOMAIN 4: Activity/Rest <u>Class 2: Activity/Exercise</u> -Impaired physical mobility (00085) -Impaired sitting (00237)</p>	<p>DOMAIN 11: Safety/Protection <u>Class 2: Physical Injury</u> -Impaired skin integrity (00046) -Impaired tissue integrity (00044) -Risk of impaired tissue integrity (00248) -Risk of impaired skin integrity (00047) -Risk of pressure ulcer (00249) DOMAIN 12: Comfort <u>Class 1: Physical Comfort</u> -Acute pain (00132)</p>	
<p>Capacity to provide technical assistance</p>	<p>DOMAIN 1: Health Promotion <u>Class 2: Health Management</u> -Frail elderly syndrome (00257) -Ineffective health maintenance (00099) -Ineffective health management (00078) DOMAIN 4: Activity/Rest <u>Class 2: Activity/Exercise</u> -Impaired walking (00088)</p>	<p>DOMAIN 7: Role Relationships <u>Class 1: Caregiving Roles</u> -Caregiver role strain (00061) -Risk of caregiver role strain (00062) DOMAIN 9: Coping/Stress Tolerance <u>Class 2: Coping Responses</u> -Disabled family coping (00073)</p>	
<p>Capacity to assist with bathroom use</p>	<p>DOMAIN 1: Health Promotion <u>Class 2: Health Management</u> -Frail elderly syndrome (00257) DOMAIN 3: Elimination/Exchange <u>Class 1: Urinary System</u> -Impaired urinary elimination (00016) -Urge urinary incontinence (00019) -Risk of urge urinary incontinence (00022)</p>	<p>-Functional urinary incontinence (00020) <u>Class 2: Gastrointestinal System</u> -Bowel incontinence (00014) DOMAIN 4: Activity/Rest <u>Class 5: Self-Care</u> -Toileting self-care deficit (00110) DOMAIN 9: Coping/Stress Tolerance <u>Class 2: Coping Responses</u> -Ineffective coping (00069)</p>	
<p>Capacity to feed/hydrate</p>	<p>DOMAIN 1: Health Promotion <u>Class 2: Health Management</u> -Frail elderly syndrome (00257) -Risk of frail elderly syndrome (00231) DOMAIN 2: Nutrition <u>Class 4: Metabolism</u> -Risk of unstable blood glucose level (00179) <u>Class 5: Hydration</u> -Risk of electrolyte imbalance (00195) -Readiness for enhanced fluid balance (00160) -Risk of imbalanced fluid volume (00025) -Excess fluid volume (00026) DOMAIN 3: Elimination/Exchange <u>Class 2: Gastrointestinal System</u> -Constipation (00011) -Chronic functional constipation (00235)</p>	<p>-Risk of chronic functional constipation (00236) -Dysfunctional gastrointestinal motility (00196) DOMAIN 4: Activity/Rest <u>Class 2: Activity/Exercise</u> -Impaired wheelchair mobility (00089) -Impaired physical mobility (00085) -Impaired sitting (00237) <u>Class 4: Cardio-Pulmonary Responses</u> -Risk of decreased cardiac tissue perfusion (00200) -Risk of impaired cardiovascular function (00239) <u>Class 5: Self-Care</u> -Feeding self-care deficit (00102) DOMAIN 5: Perception/Cognition <u>Class 4: Cognition</u> -Impaired memory (00131)</p>	<p>DOMAIN 11: Safety/Protection <u>Class 2: Physical Injury</u> -Risk of injury (00035) -Risk of pressure ulcer (00249) -Risk of shock (00205) -Impaired dentition (00048) -Risk of impaired skin integrity (00047) -Impaired oral mucous membrane (00045) -Risk of impaired oral mucous membrane (00247) <u>Class 6: Thermoregulation</u> -Hyperthermia (00007) -Hypothermia (00006) -Risk of imbalanced body temperature (00005) DOMAIN 12: Comfort <u>Class 1: Physical Comfort</u> -Acute pain (00132) -Chronic pain (0133)</p>

To be continued

Chart 1 (concluded)

ECPICID-AVC factor	Domains, classes and nursing diagnoses mapped with similarity
Capacity to assist with dressing/undressing	<p>DOMAIN 1: Health Promotion <u>Class 2: Health Management</u> -Frail elderly syndrome (00257)</p> <p>DOMAIN 4: Activity/Rest <u>Class 5: Self-Care</u> -Dressing self-care deficit (00109)</p>

DISCUSSION

The discussion was constructed by approaching similar investigations, since no studies with the same theme were identified.

In this study, similarities were found between eight ECPICID-AVC scale care factors and nine domains, 19 classes, and 72 nursing diagnoses of the NANDA-I taxonomy. The mapping process identified issues related to the needs of elderly adult stroke patients that were associated with ECPICID-AVC scale care factors and the nursing diagnoses of those patients. Caregivers should understand the needs of stroke patients before they provide care. The nurse should keep in mind NDs for elderly adult care recipients when (s)he is utilizing the scale in order to assess caregiver capabilities.

The mapping process for any one particular factor was not an isolated mapping process. Similarities between care activities and corresponding ECPICID-AVC scale care factors meant that factors had to be mapped together. For example, the factors "Capacity to feed/hydrate" and "Capacity to feed/hydrate by nasogastric/gastrostomy tube" were mapped with Domain 2-Nutrition, Classes 1-Ingestion, 4-Metabolism, and 5-Hydration, and their respective NDs. The relationship of these ECPICID-AVC scale care factors to Domain 2 makes sense because many elderly patients are unable to feed themselves after a stroke due to - for example - dysphagia.

Post-stroke neurological deficits, in which changes in swallowing occur mainly in the acute phase⁽¹⁵⁾, influences nutritional status. These difficulties probably explained mapping the factors "Capacity to feed/hydrate" and "Capacity to feed/hydrate by nasogastric/gastrostomy tube" in the NDs Impaired swallowing (00103) and Imbalanced nutrition, less than body requirements (00002). This highlights the importance of nurses identifying, correcting, or preventing problems while considering the functional capacity, socioeconomic context, and comorbidities of elderly patients. This way, nurses can provide guidance to caregivers both during a hospitalization and after discharge about how to manage feeding/hydration issues⁽¹⁶⁾.

The factor "Capacity to assist with feeding/hydrating by nasogastric/gastrostomy tube" was also mapped with other two NDs: "Risk for aspiration (00039)" and "Risk for injury (00035)". The ND "Risk for aspiration (00039)" has been clinically validated in patients hospitalized for a stroke⁽¹⁷⁾ among 58.3% of elderly adult stroke patients. The most prevalent risk factors for aspiration were dysphagia (54.2%) and decreased body mobility (41.7%). It is important for nurses to guide caregivers to observe diet by nasogastric/gastrostomy tube to prevent patient aspiration, especially in a developing country context in which the nasogastric/gastrostomy tube is handled by the family.

The factors "Capacity to assist with personal hygiene" and "Capacity to assist with bathroom use" were mapped into various NDs of the Domain 3-Elimination/Exchange, in the Classes 1-Urinary system

and 2-Gastrointestinal system. This is consistent with the fact that stroke is one of the leading causes of urinary incontinence, as it can alter the brain structures responsible for micturition⁽¹⁸⁾ and patients often exhibit a lack of sphincter control (both urinary and fecal) due to advancing age or dependency⁽¹⁹⁾. In addition, especially after stroke, older adults may need incontinence pads to manage their excreta, depending on the level of dependence. Incontinence diaper changes are complex as many caregivers are not accustomed to doing so routinely⁽²⁰⁾. Incontinence diaper changes require training by health care professionals using a return demonstration method⁽²⁰⁻²¹⁾.

The factors "Capacity to assist with transfers" and "Capacity to assist with positioning" were mapped with NDs in Domain 4-Activity/Rest, Class 2-Activity/Exercise. Patient locomotion or transfer is one of the most common activities performed by informal caregivers of elderly patients at home who become dependent after a stroke⁽²²⁾. However, another national study with informal caregivers of the elderly identified that they often experience doubts about these activities. Patient transfers are usually learned during daily care, without guidance from health professionals⁽²⁰⁾.

Lower back pain in older adults reduces functional capacity⁽²³⁾. This finding is in keeping with the present study in that the ECPICID-AVC factor "Capacity to assist with positioning" was mapped with the ND "Acute pain (00132)". The caregiver should know how to position the older adult stroke survivor in a way that relieves pain and discomfort.

The factors "Capacity to provide technical assistance/technical aids" were mapped with NDs in Domain 7-Role Relationships, Class 1-Caregiving Roles and 3-Role Performance. The term 'technical aids' is related to providing physical support and/or providing materials to perform care. These mapped domains are related to family/caregivers, not to stroke survivors. In Brazil, informal care is the main source of home help for elderly adults with functional limitations⁽²⁴⁾. Inadequate social support or lack of support causes caregiver task overload⁽²⁵⁾. Formal support, including rest for the caregiver, support networks, and financial and structural supports reduce caregiver overload, mainly through emotional support⁽²⁶⁾. These findings corroborate our mapping of the factor "Capacity to provide technical assistance/technical aids" on to NDs in the Role Relationships domain. Caregiver quality of life is affected by caregiving stress and can be improved through the provision of social support.

The factor "Capacity to provide technical assistance" was mapped with the NDs "Disabled family coping (00073)" and "Ineffective coping (00069)". The provision of technical assistance by informal caregivers can generate feelings of doubt because adult children are now parental caregivers. Role reversals make adult children have doubts about what they can and cannot decide for a parent when providing hands-on care on their behalf^(20,27).

Providing care to a parent is an emotionally-charged experience that can evoke negative feelings in adult children⁽²⁰⁾.

Impairment in social interactions is a largely negatively perceived aspect of caring for a dependent elderly adult⁽²⁸⁾. Social isolation is both a common and unwelcome change in caregivers' lives⁽²⁹⁻³⁰⁾. Connections between health services and existing social support networks can reduce the social inclusion of informal caregivers⁽³⁰⁾.

Five ECPCID-AVC factors ("Capacity to feed/hydrate via nasogastric/gastrostomy tube", "Capacity to feed/hydrate", "Capacity to assist with personal hygiene", "Capacity to assist with bathroom use", and "Capacity to assist with dressing/undressing") were mapped into the Domain 4-Activity/Rest, Class 5-Self-Care. Activities falling within the domain of self-care, i.e. bathing, oral and genital hygiene, and dressing, are most often performed by informal caregivers when older adults have decreased functional capacity^(24,31). Caregivers often experience doubts or need additional information about self-care activities^(22,28). The nursing team should identify the needs of these older adult patients as well as caregiver doubts to ensure that self-care activities are carried out properly.

"Capacity to feed/hydrate via nasogastric/gastrostomy tube", "Capacity to feed/hydrate", "Capacity to assist in transfers", and "Capacity to assist with positioning" were mapped with Domain 11-Safety/Protection, Class 2-Physical Injury. Some factors may contribute to the development of a pressure injury that compromises skin integrity in elderly adult patients, including impaired mobility in bed, friction during mobilizations, and nutritional deficiencies⁽³²⁻³³⁾. Caregivers oversee positioning changes at home. Thus the nursing team should provide support and guidance in regards to positioning changes to prevent pressure injuries.

The factors "Capacity to feed/hydrate via nasogastric/gastrostomy tube", "Capacity to feed/hydrate", and "Capacity to assist in transfers" were mapped with Domain 5-Perception/Cognition, Class 4-Cognition. Stroke is the main cause of chronic physical and mental impairments⁽³⁴⁾. Elderly adults who have a history of stroke are also at nearly double the risk of degenerative dementias such as Alzheimer's disease⁽³⁵⁾.

It should be noted that the ND "Frail elderly syndrome (00257)" (Domain 1, Health Promotion, Class 2, Health management) was mapped with all eight factors of the ECPCID-AVC scale. According to NANDA-I, this diagnosis is defined as "a Dynamic state of unstable equilibrium that affects the elderly individual experiencing deterioration in one or more domains of health (physical, functional, psychological, or social) and leads to increased susceptibility to adverse health effects, in particular disability"⁽¹¹⁾. The concept of 'frailty' in older adults has been widely discussed in the field of aging studies; however, this concept lacks a set definition. 'Frailty' is strongly associated with vulnerability and adverse clinical outcomes that deter quality of life, autonomy, and independence⁽³⁶⁻³⁷⁾. This ND highlights the need for caregiver orientations to ADLs, and behaviors and self-esteem among elderly people after a stroke.

Stroke corroborates the characteristics of 'frailty'. Cerebrovascular disease is the leading cause of disability in the elderly population because it hinders the capacity to perform basic and complex tasks necessary for independent living⁽³⁸⁾. Disability levels after a stroke determine how dependent older adults would be upon informal caregivers. Post-stroke physical disabilities can negatively affect the day-to-day life quality of elderly adult stroke survivors and their families^(4,39).

Limitation of the study

The limitation of the study lies in the fact that this cross-mapping has been developed at the theoretical level. It is necessary to validate it using the ECPCID-AVC and the nursing diagnoses in clinical practice with the patient receiving care performed by an informal caregiver.

Contributions to the area of nursing, health or public policy

This study demonstrates the importance of identifying nursing diagnoses and their relationship with factors that evaluate caregiving capacity. The ECPCID-AVC can help to generate nursing diagnoses about the needs of the stroke survivor and the caregiver's capacity to respond such needs. The use of the ECPCID-AVC should help to plan interventions and educational programs for caregivers, especially when preparing a dependent older adult patient for discharge, as a way of improving the quality of care provided at home.

FINAL CONSIDERATIONS

In this study, eight ECPCID-AVC scale factors were mapped on to nine domains of the NANDA-I taxonomy and, relatedly, 19 classes and 72 diagnoses. The ECPCID-AVC encompasses care related to biological aspects of aging. As such it is necessary for nurses to look at aging as a process that encompasses more than the physiological aspects of care, including emotional and subjective aspects related to the caregiver's role. The diagnoses mapped refer to diagnoses for elderly adults that will have implications for caregiver actions and for diagnoses related to caregivers themselves. The identification of the diagnoses related to each ECPCID-AVC scale factor (cross-mapping) provides "evidence" of clinical knowledge that can be developed by nurses who use this scale.

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