

Use of Nursing Diagnoses and Interventions in Public Health Nursing Practice

Jennifer C. Rivera, MSN, MPH, RN, and Kathleen M. Parris, MSN, RN

PURPOSE. *To determine the frequency of use of NANDA diagnoses and the Nursing Interventions Classification in care plans written by public health nurses (PHNs) in Orange County, CA.*

METHODS. *Retrospective chart review.*

FINDINGS. *The frequency pattern of nursing diagnoses and nursing interventions used in care plans is consistent with the scope of practice of the PHN, whose emphasis is on health promotion and disease prevention.*

CONCLUSIONS. *The most commonly used diagnoses and interventions provide evidence of a core set of interventions useful for PHN practice.*

IMPLICATIONS FOR PRACTICE. *Linking diagnoses and interventions allow PHNs to build a body of knowledge based on patient care and improve clinical decision-making process.*

Search terms: *Interventions, nursing diagnosis, public health nursing*

Utilisation des diagnostics infirmiers et interventions en santé publique

BUT. *Déterminer la fréquence des diagnostics infirmiers (ANADI) et des interventions (NIC) dans les plans de soins rédigés par les infirmières de santé publique dans le Comté d'Orange, CA.*

MÉTHODE. *Étude rétrospective des dossiers.*

RÉSULTATS. *La répartition des diagnostics infirmiers et des interventions utilisés dans les plans de soin est cohérente avec la pratique des infirmières en santé publique, c'est-à-dire qu'elle souligne l'importance de la promotion de la santé et la prévention de la maladie.*

CONCLUSIONS. *Les diagnostics et interventions les plus fréquemment utilisés permettent d'identifier le groupe d'interventions au centre de la pratique des soins en santé publique.*

IMPLICATIONS POUR LA PRATIQUE.

L'articulation des diagnostics et interventions de soins permet de construire un corpus de connaissances en santé publique basée sur le soin des patients et d'améliorer le processus de décision clinique.

Mots-clés: *Diagnostics infirmiers, interventions, soins infirmiers en santé publique*

テーマ：公衆衛生〔地域〕看護実践における看護診断と介入の活用

目的：カリフォルニア、オレンジ郡の保健師〔PHNs〕が作成したケア計画からNANDAの看護診断とNIC〔介入分類〕の活用頻度を明らかにする。

方法：回顧研究法によるカルテレビュー

結果：ケア計画に用いられていた看護診断と看護介入の頻度パターンは、健康増進と疾病予防を強調する保健師の実践範囲と一致していた。

結論：最も一般的に活用される看護診断と介入は、保健師の実践に有用な中核的介入を決める根拠となる。

実践との関連：看護診断と介入を連携することで、保健師〔PHNs〕は患者ケアに基づく知識体系が構築でき、臨床の意思決定プロセスを改善できる。

探索用語（キーワード）：介入、看護診断、公衆衛生看護〔地域看護〕

Utilización de los diagnósticos e intervenciones de enfermería en la práctica de enfermería de salud pública

PROPÓSITO. *Determinar la frecuencia del uso de los diagnósticos de la NANDA y de la clasificación de las intervenciones enfermeras (NIC), en planes del cuidados escritos por enfermeras de salud pública en el Condado de Orange, California.*

MÉTODOS. *Revisión retrospectiva de gráficos.*

RESULTADOS. *El patrón de frecuencia de diagnósticos de enfermería y de intervenciones enfermeras utilizados en los planes del cuidados, es consistente con el ámbito asistencial de las enfermeras de salud pública, cuyo énfasis está en la promoción de salud y la prevención de la enfermedad.*

CONCLUSIÓN. *Los diagnósticos e intervenciones más comúnmente utilizados, proporcionan evidencia de un grupo nuclear de intervenciones útiles a la práctica de enfermería de salud pública.*

IMPLICACIONES PARA LA PRÁCTICA. *Conectar los diagnósticos y las intervenciones permite a las Enfermeras de Salud Pública construir un cuerpo de conocimientos basado en el cuidado de los pacientes y mejorar el proceso de toma de decisiones en la práctica clínica.*

Términos de búsqueda: *Diagnóstico enfermero, enfermería de salud pública, intervenciones*

Uso de diagnósticos e intervenções de enfermagem na prática de enfermagem em Saúde Pública

OBJETIVO. *Determinar a frequência de uso dos diagnósticos da NANDA e da Classificação de Intervenções de Enfermagem (NIC) em planos de cuidados escritos por enfermeiras da área de Saúde Pública no Condado de Orange, Califórnia.*

MÉTODO. *Revisão retrospectiva de fichas.*

ACHADOS. *O padrão de frequência de diagnósticos de enfermagem e intervenções de enfermagem utilizados em planos de cuidados é compatível com o escopo da prática das enfermeiras da área de Saúde Pública, cuja ênfase está na promoção da saúde e prevenção de doenças.*

CONCLUSÃO. *Os diagnósticos e intervenções mais comumente utilizados evidenciam a existência de um conjunto de intervenções principais, que é útil para a prática destas enfermeiras.*

IMPLICAÇÕES PARA A PRÁTICA. *A ligação entre diagnósticos e intervenções permite às enfermeiras da área de saúde pública construir um corpo de conhecimentos baseado no cuidado do paciente e melhora o processo de tomada de decisão.*

Palavras para busca: *Diagnóstico de enfermagem, enfermagem em saúde pública, intervenções*

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In today's society, escalating healthcare costs are severely limiting resources available for public health nurses (PHNs) to provide services. Therefore, for public health programs to survive, it is imperative that PHNs define their services and provide evidence supporting the effectiveness of the interventions they offer. For this to be accomplished, a standardized nursing language must be implemented (Deal, 1994).

Historically, handwritten narrative notes were the primary source of patient service documentation. Unfortunately, these narrative documents were not consistent in documenting care plans, were not thorough, and lacked documentation of activities performed, such as patient teaching (Boldreghini & Larrabee, 1998). In addition, there was a myriad of different words that could be used to describe the same intervention. This lack of consistency resulted in misunderstanding of the care performed, making it difficult to ensure continuity and evaluate care across settings (Clarke, 1998).

A standardized nursing language improves understanding and communication. In addition, it can expand nursing knowledge, enhance health information systems, facilitate cost evaluation of nursing services, improve nursing education, and increase comparability when measuring phenomena across individuals or across different settings. As Lang (as quoted in Beyea, 1999) stated, "If we cannot name it, we cannot control it, finance it, teach it, research it, or put it in public policy" (p. 831). Unless PHNs can document their care in a manner others can precisely understand, their work will go unnoticed. Standardizing PHN language will illuminate the work of PHNs and improve communication within the specialty and with other disciplines (Aquilino, McClelland, & Tarbox, 2000).

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Background

The Public Health Field Nursing (PHFN) program of Orange County, CA, changed from an old model of documenting public health nursing activities to a standardized data-collection system in 1997. For more than 20 years PHFN used the narrative-type client record—a modified version of the Problem Oriented Record (Parris et al., 1999). Documentation of patient care was often lengthy and rambling, making it difficult for supervisory personnel to obtain meaningful information about services or trends in the community served. A task force of 10 PHNs researched the available body of knowledge published in the nursing literature using a total quality management approach, and decided to integrate the nursing diagnosis taxonomy developed by the North American Nursing Diagnosis Association (NANDA, 1996) and the Nursing Interventions Classification (NIC) (McCloskey & Bulechek, 1996). The decision to use these systems was based on the fact that they are supported by years of research, as well as a consensus and review process. Sixty-five NANDA diagnoses and 128 NIC interventions were identified as appropriate for PHFN. The task force designed and adapted a set of forms from NANDA diagnoses and NIC systems that document the nursing process in the public health setting named “Nursing Diagnosis●Nursing Care Plans” and “Nursing Interventions●Nursing Care Plans,” respectively. The forms are based on the NANDA nursing model, using nine Functional Health Patterns from the NANDA (1996) Taxonomy, and clusters of activities from the NIC list of interventions. The family and client profiles comprehensively record minimum collection data to reflect the information needed to identify nursing diagnoses (leading to nursing care plans for intervention) and to attain expected outcomes (Parris, 2000).

Purpose

The purpose of this study was to evaluate the selected nursing diagnoses and interventions for their capacity to document accurately PHFN practice and to describe the

most common nursing diagnosis and their interventions used by PHNs.

Methods

The initial step of this evaluation was a retrospective review of client records to analyze the use of nursing diagnoses and interventions after the standardized documentation systems were initiated. The analysis determined which nursing diagnoses and interventions were used, the frequency of their use by PHNs, and associations among the diagnoses and interventions.

The sample consisted of data from 1,500 family records randomly selected from closed files served by PHFN from 1997 to 1998. A graduate student intern reviewed each family record and listed all the “Nursing Diagnosis●Nursing Care Plans” and the “Nursing Interventions●Nursing Care Plans” used and the number of times each care plan was used in the nursing documentation. The 1,500 records equaled 50% of the total closed family records.

Because agency records were not computerized at the time of data collection, data were reviewed manually. PHNs completed one record for each family served. The documentation system allows PHNs to report as many nursing diagnoses and interventions as they deem appropriate per visit. All services were performed in the home. This study employed a multilevel analysis scheme using NANDA and NIC. The analysis provided frequency usage rates of nursing diagnoses and nursing interventions. It also provided the frequency rates of the most commonly used nursing diagnoses and their corresponding nursing interventions. A database was created using Microsoft Excel software program.

Findings

A total count of 1,715 “Nursing Diagnosis●Nursing Care Plans” and 1,309 “Nursing Interventions●Nursing Care Plans” were found to have been used. Of the 65 possible nursing diagnoses, the PHNs used 49 at least once (Table 1). Table 2 presents the 10 most frequently

Table 1. Nursing Diagnoses Used^a

- Airway clearance, impaired/at risk for
- Anxiety/at risk for
- Aspiration/at risk for
- Body temperature, altered/at risk for
- Breastfeeding, impaired/at risk for altered
- Breathing clearance, impaired/at risk for
- Caregiver role strain/at risk for
- Communication: Impaired, verbal/at risk for
- Constipation/at risk for
- Coping, defensive/at risk for
- Coping, ineffective/at risk for
- Denial, ineffective (substance abuse)/at risk for
- Diarrhea/at risk for
- Family coping, ineffective: Disabling/at risk for
- Family processes, altered/at risk for
- Fluid volume deficit, at risk for
- Grieving, dysfunctional/at risk for
- Growth and development, altered/at risk for
- Health maintenance, impaired/at risk for
- Health seeking behaviors
- High risk for trauma
- Home maintenance, impaired/at risk for
- Hopelessness/at risk for
- Impaired physical mobility
- Infant behavior: Disorganized/at risk for
- Infant feeding pattern, impaired/at risk for
- Infection at risk for
- Injury, at risk for
- Knowledge deficit, learning need related to postpartum/ infant care
- Noncompliance/compliance, altered
- Nutrition, altered, less than body requires/at risk for
- Nutrition, altered, more than body requires/at risk for
- Oral mucous membrane, altered/at risk for
- Pain (acute)/at risk for
- Parent child attachment, at risk for
- Parental role conflict/at risk for
- Parenting, altered/at risk for
- Peripheral neurovascular dysfunction/at risk for
- Post-trauma response/at risk for
- Powerless/at risk for
- Role performance, altered/at risk for
- Self-care deficit
- Sensory-perceptual alterations
- Skin integrity, impaired/at risk for
- Sleep pattern disturbance/at risk for
- Swallowing, impaired/at risk for
- Therapeutic regimen: Individual, ineffective management/ at risk for
- Violence (actual)/at risk for

^aDiagnoses in use in 1997/1998

used diagnoses, along with their frequency of use, in descending order. The top two diagnoses, used at least 350 times each, represented more than 50% of all nursing diagnoses used by PHNs. *Knowledge deficit, learning need related to postpartum/infant care* accounted for 33% of all diagnoses used, and *at risk for or altered growth and development* accounted for 21% of all diagnoses used.

Of the 128 possible nursing interventions, 106 were used at least once by the PHNs (Table 3). Included in the list are the four NIC interventions developed and pilot tested by the PHFN program. They are labeled with the letters W, X, Y, and Z. These four interventions were later adopted into the 3rd edition of NIC in 2000 (McCloskey & Bulechek, 2000). Table 4 presents the 10 most frequently used interventions, along with their frequency use, in descending order. The top three interventions, used more than 100 times each, represented more than 40% of all nursing interventions used by PHNs. *Teaching: infant care* accounted for 20% of all interventions used, *postpartal care* accounted for 13%, and *teaching: nutrition, birth to 12 months* accounted for 8%.

Table 2. The 10 Most Frequently Used Nursing Diagnoses (n = 1,715)

Nursing Diagnosis	Frequency	Percentage
■ Knowledge deficit, learning need related to postpartum/ infant care	557	33
■ Growth and development, altered/at risk for	351	21
■ Infection/at risk for	72	4
■ Parent child attachment, altered/at risk for	72	4
■ Breathing pattern, impaired/ at risk for	66	4
■ Nutrition altered, less than body requires/at risk for	58	3
■ Therapeutic regimen: individual, ineffective management/at risk for	52	3
■ Fluid volume deficit, at risk for	44	3
■ Caregiver role strain/at risk for	39	2
■ Noncompliance/compliance altered	32	2

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Table 3. Nursing Interventions Used^a

430	Bowel management	5210	Anticipatory guidance	6540	Infection control
840	Positioning	5230	Coping enhancement	6550	Infection protection
1050	Feeding	5240	Counseling	6610	Risk identification
1052	Bottle feeding	5244	Lactation counseling	6612	Risk identification: Childbearing family
1054	Breastfeeding	5246	Nutritional counseling	6650	Infection protection
1100	Nutrition management	5270	Emotional support	6654	Surveillance: Safety
1120	Nutrition therapy	5290	Grief work facilitation	6680	Vital signs monitoring
1160	Nutrition monitoring	5310	Hope installation	6710	Attachment promotion
1260	Weight management	5370	Role enhancement	6760	Childbirth preparation
1280	Weight reduction assistance	5400	Self-esteem enhancement	6784	Family planning: Contraception
1710	Oral health maintenance	5420	Spiritual support	6788	Family planning: Unplanned pregnancy
1750	Perennial care	5440	Support system enhancement	6800	High risk pregnancy care
2120	Hyperglycemia management	5480	Values clarification	6820	Infant care
2130	Hypoglycemia management	5510	Health education	6870	Lactation suppression
2300	Medication administration	5520	Learning facilitation	6880	Newborn care
2304	Medication administration: Oral	5540	Learning readiness: Enhancement	6900	Nonnutritive sucking
2305	Medication administration: Prenatal	5564	Parental education: Childbearing family	6930	Postpartal care
2380	Medication management	5566	Parental education: Childrearing family	6960	Prenatal care
2620	Neurological monitoring	5602	Teaching: Disease process	7040	Caregiver support
2690	Seizure precautions	5606	Teaching: Individual	7050	Development enhancement
3160	Airway suctioning	5608	Teaching: Infant care	7100	Family integrity promotion
3200	Aspiration precautions	5612	Teaching: Prescribed activity/exercise	7104	Family integrity promotion: Childbearing family
3320	Oxygen therapy	5614	Teaching: Prescribed diet	7110	Family involvement
3350	Respiratory management	5616	Teaching: Prescription medication	7130	Family process maintenance
3440	Incision site care	5618	Teaching: Procedure/treatment	7140	Family support
3584	Skin care: Topical treatment	5622	Teaching: Safe sex	7330	Culture brokerage
3590	Self-awareness enhancement	5820	Anxiety reduction	7400	Health system guidance
3740	Fever treatment	6400	Abuse protection	7820	Specimen management
4120	Fluid management	6402	Abuse protection: Child	6880	Technology management
4352	Behavior management	6410	Allergy management	8100	Referral
4360	Behavior modification	6480	Environmental management	W	Teaching: Nutrition, birth to 12 months
4380	Limit setting	6486	Environmental management: Safety	X	Teaching: Nutrition, 13 to 36 months
4480	Self-responsibility	6490	Fall prevention	Y	Teaching: Safety, birth to 12 months
4510	Substance abuse assistance	6500	Fire setting precautions	Z	Teaching: Safety, 13 to 36 months
4640	Anger control assistance	6530	Immunization/Vaccine administration		
4974	Communication enhancement: Hearing deficit				
4976	Communication enhancement: Speech deficit				

^a Interventions were those available in McCloskey & Bulechek, 1996.

Table 4. The 10 Most Frequently Used Nursing Interventions (n = 1,309)

Nursing Intervention	Frequency	Percentage	Nursing Intervention	Frequency	Percentage
■ Teaching: Infant care	272	20	■ Teaching: Safety, 13 to 36 months	51	4
■ Postpartal care	179	13	■ Teaching: Disease process	47	4
■ Teaching: Nutrition, birth to 12 months	105	8	■ Teaching: Nutrition, 13 to 36 months	46	4
■ Teaching: Safety, birth to 12 months	96	7	■ Family planning: Contraception	32	2
■ Infant care	93	7	■ Breast-feeding	28	2

Table 5. Relationship Between the 10 Most Frequently Used Nursing Diagnoses and the Corresponding Most Frequently Used Nursing Intervention

Nursing Diagnosis	Nursing Intervention	Linkage	% Total
■ Knowledge deficit, learning need related to postpartum/infant care	■ Postpartal care	+	23
■ Growth and development, altered/at risk for	■ Teaching: Infant Care	+	17
■ Infection/at risk for	■ Teaching: Disease process		19
■ Parent child attachment, altered/at risk for	■ Postpartal care		39
■ Breathing pattern, impaired/at risk for	■ Teaching: Disease process		13
■ Nutrition altered, less than body requires/at risk for	■ Teaching: Nutrition, 13 to 36 months		17
■ Therapeutic regimen: Individual, ineffective management/at risk for	■ Health system guidance		20
■ Fluid volume deficit, at risk for	■ Teaching: Infant care		27
■ Caregiver role strain/at risk for	■ Caregiver support	+	23
■ Noncompliance/compliance altered	■ Seizure precautions		20

+ Linkages supported by Johnson, Bulechek, Dochterman, Maas, & Moorhead (2001).

Table 5 presents the 10 most frequently used nursing diagnoses with their corresponding most frequently used intervention. For example, for visits in which *knowledge deficit, learning need related to postpartum/infant care* was the priority diagnosis, the most commonly used intervention was *postpartal care*. This intervention was used 23% of the time with this particular diagnosis.

Discussion

Analysis of the findings demonstrated that the "Nursing Diagnosis●Care Plans" and the "Nursing Interventions●Nursing Care Plans" provided an effective way to document the complex practice domain of the PHNs in Orange County. Review of Orange County's PHFN program showed that more 50% of all the referrals for a

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PHN visit in 1997 to 1999 were related to a postpartum patient discharge. This is consistent with the frequency findings, in which the most frequently used diagnosis was *knowledge deficit, learning need related to postpartum/infant care*. As noted earlier, this diagnosis accounted for 33% of all the diagnoses used. In addition, the most frequently used intervention, *teaching: infant care*, accounted for approximately 20% of all the interventions reviewed.

Further analysis showed that many of the interventions were appropriate for the associated diagnosis. These relationships are supported by the book *Nursing Diagnoses, Outcomes and Interventions: NANDA, NOC and NIC Linkages* (Johnson, Bulechek, Dochterman, Maas, & Moorhead, 2001). For example, in the analysis, the diagnosis *risk for caregiver role strain* was most frequently used (23% of the time) with the intervention *caregiver support*. In the book, *caregiver support* was listed as a major intervention for this diagnosis. Johnson et al., however, did not support several of the diagnoses and intervention relationships used by the PHNs. This warrants the review of other nursing interventions used by PHFNs with these diagnoses. In addition, PHNs used 78% of the possible diagnoses and 85% of the possible interventions in at least one patient visit. This finding warrants review of the nursing diagnoses and interventions that were *not* used for their appropriateness for PHN practice.

Linking NANDA diagnoses and NIC interventions revealed that PHNs have an inventory of frequently used interventions that cross visit type and nursing diagnoses. The frequency pattern is consistent with the scope of practice of the PHN, whose emphasis is on the health promotion and disease prevention of the community. These commonly used diagnoses and interventions provide evidence of a core set of interventions useful for practice in public health.

Future Recommendations

Since the implementation of the NANDA and NIC documentation system, the PHFN Task Force decided to rewrite the existing expected outcomes to incorporate the Nursing Outcomes Classification (NOC) (Johnson,

Maas, & Moorhead, 2000) as part of the "Nursing Diagnosis • Nursing Care Plan." The standardized classification system of NOC can be used to evaluate the effects of nursing interventions. Each NOC outcome has a definition, a five-point Likert scale to measure patient status, and a list of indicators that can be used to evaluate patient status (Johnson et al.). The task force has identified 19 nursing outcomes from NOC that will be used to document measurable client outcomes resulting from PHN interventions.

Following implementation, PHFN will determine which PHN interventions are linked to which outcomes. The ability to link nursing interventions with patient outcomes provides a means for quality assessment. PHFN plans to evaluate the selected nursing diagnoses, interventions, and outcomes for the ability to document PHN practice. Identified gaps will be analyzed to determine if there are approved nursing diagnoses, interventions, and outcomes that can be used, or if these need to be developed.

Conclusion

Identifying the use rate of particular diagnoses and interventions will help determine which diagnoses and interventions should be included in the PHFN electronic medical record. Also, linking diagnoses and interventions will allow PHFN to build a body of knowledge based on actual patient care. This information can be used to assist PHNs to make better clinical decisions.

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