Introduction

During the pandemic, nurses were in an exhausting situation due to the virus impact and the high patient demand. In this context, they had to respond to care expectation and clinical records, taking into account that the importance of the profession lies on the scientific nature of the nursing process: NANDA, NOC, NIC.

Study Purpose/aims

The purpose of this study is to design and to validate COVID-19 nursing record by functional patterns an NNN taxonomy in emergency.

Methodology:

Mixed study of four phases:

Phase 1: quantitative, 120 records (progress notes fluid balance charts, graphical sheets, and Kardex were audited using a checklist.

Phase 2: qualitative, a focus group of 10 nurses who using an Ishikawa diagram, identified opportunitie and problems in the records. Version 1 of the nursing record format was designed.

Phase 3: quantitative, content validity was assessed through the Delphi technique with 10 experts. The second version of the format was achieved.

Phase 4: training and pilot testing for validation b nurses using a questionnaire. The final version wa achieved

Functional patterns and NNN Taxonomies in the validation of the nursing record to address the COVID-19 pandemic, for the safety and continuity of care in the Emergency Service of a Level 3. Hospital in Lima-Peru



Ruth Aliaga Sánchez^{*1,2}, Roxana Obando Zegarra^{1,3}, Janet Mercedes Arévalo Ipanaqué⁴, María Cristina Flores Luján, Flavia¹ Glovana Valencia Portuguez¹ ¹ Daniel A. Carrión State Hospital, ² Cesar Vallejo University, ³ Cayetano Heredia University, ⁴ Peruana Unión University. *E-mail: ruthali_59@hotmail.com

I. SUBJECTIV	E ASSESSIVIENT ON A	DIVIIS	SIUN	_				_	-				-		_		-	+		
GD: Sore thr	roath () Oxygen de	privat	ion ()	Cough ()	Difficulty speaking	()	Nau	sea) Other:			_		_			_		
Fever () S	shortness of breath () Ge	enera	l dise	comfort () Ageusia () Anos	mia ()												
II. OBJECTIV	E ASSESSMENT																			
PATTERN 1		DN	D	N P	PATTERN 4			N D	N	NANDA DIAGNOSES	D	N	DN	NOC: INDICATORS	D I F	N I F	D	FI	N F	NIC: INTERVENTIONS
HTA 🗌	D.M			Li	imbs mobil	bs mobility								Respiratory rate						To position the patient in a semi-Fowler/prone/supine position
TBC 🗆	HIV 🗆		+	1	L. YES 2. N	10		_	1	Ineffective breathing				Respiratory rhythm				_		Maintain patent airway, auscultate respiratory sounds, assess chest
	Obesity		+	-	Muscle	Hypertonic		+	⊢	pattern			-	Findings on chest-X-ray	+			+	H	symmetry, interpret X-ray. Administer O2 via pacel capavia, monitor vital ciner (M/V), monitor recoiratory rate
Arrhythmia	🔄 Asthma 🚞				tone	Hypotonic								Oxygen saturation						(MR), provide ventilatory support (VM), monitor FiO2
Blood type	RH			н	leart rate									PaCO2, PaO2, PH art.						Arterial blood gas assessment
factor:				1	L. Rhytmic					Impaired ass exchange				Cyanosis						Monitor effectiveness of oxygen therapy
Medication				2	2. Tachycard	dia				impaireu gas excitatige				V/Q ratio balance						Recognize increased respiratory effort, hypoxemia
allergy				3	8. Bradycard	dia		_	_					Cognitive impairment				_		Glasgow assessment
Other			++	4	4. Arrnythmias					Impaired Spontaneous				Use of accesory muscles						Administration of indicated therapy, proper utilization
Hygiene	good		5. Fi		5. Fibrillatio	ation				Ventilation				Sternal retraction						Monitor signs of complications, recognize if further intervention is required
status	fair		μŢ	P	Peripheral p	oulse	$+ \mp$	1	ſ			H		Dyspnea at rest	T	Щ	П	T	П	Change in oxygen supply
	poor			1	1. Yes	2. No	++	+	+			\vdash	+	Ineffective cough		⊢⊢	++	⊢	\vdash	Facilitate the expulsion of oral secretions/fluids
Feverish T°	1 Yes 2 No		П		apiliary ret	> 2 SEC	\vdash	+	+	inerrective airway clearance		\vdash	+	Agonal respiratory sounds	+	H	++	+	+	Unai succoming or secretoris as per condition, use of closed succión systems Protocolized protected CPB (Cardiopulmonary Resuscitation) according
NPO	1. Yes 2. No	H	+	P	PATTERN 5	- E JEU		-	<u> </u>		Η	\vdash	+	Skin lesion	+	H	\square	+	Н	to the nation's condition
Vomiting	1. Yes 2. No		$^{++}$	S	leepy	1. Yes 2. No		Т	Г	Impaired skin integrity		\square	+	Pressure injury	+	Ħ	\square	+	П	Perform position changes, prevent/treat pressure ulcers
Nausea	1. Yes 2. No			Ir	rritable	1. Yes 2. No	H	1	T			T	1	Hydratation		П	П	1	П	Record volume, assess urinary output
Swallowing	problems (dysphaeia)		R	Restless	1. Yes 2. No	H	+	t	Deficit of fluid volume				Tureor	+	H		+	Н	Perform a Bedside Handoff (BHE)
1 Good		İΤ		P	ATTERN 6	TTERN 6		-	<u> </u>		Η	\vdash	+	Verhal expression	+	H	\square	+	Н	Ascess nain level with a scale and administer appropriate measures
2. Fair			+	Active	Arrende	1 Yes 2 No	Г	Т	T	Acute pain				Facial expression	+		+	+	Н	Administer non-nharmarological and nharmarological pain relief, record the resonnee
3. Poor					hopoactive	1. Yes 2. No		+	t					Altered physical mobility				+		Adverse effect of analgesia
	Devi			Sedated Lethargic	1 Yes 2 No		+	t		\square			Cutaneous temperature						Continuous temperature monitories	
A	Diy				euateu	1. Hes 2. NU		_	-	Hyperthermia	_			Cephalalgia				_	Ħ	continuous temperature monitoring
Rail	Moist		+		etnargic	1. Yes 2. No		+	┝			\vdash	\vdash	Muscle pain		++	+	+		Administration of antipyretics as prescribed
ORD.	Semi-moist Joingies		+		Eye ()		+	┝	Risk for unstable blood		\vdash	+	Hypogiycemia			+	+		Blood glucose control, management or nypogiycemia	
	(refe/deeners/http://				verbal ()		+						Hypergiycemia		+	++	+		Administer dextrose i.v. as per indication	
et a	Soft/depressible		+		Motor ()		+	⊢	giucose ievei t/r		\vdash	+	High blood glucose	+			+		wanagement of nypergrycemia, administering insulin	
100M	Distanded		PAIN		Score:		+	⊢		+		+	Protuse sweating			++	+		Insulin as prescribed, monitoring blood glucose levels	
PD .	Other			PAIN	1. TES 2. NU		+	⊢	Risk for impaired cardiac			-	Plead procruce				+		Perinheral circulation accessment (perinheral pulses	
	Ecchumosis			+		3.016.		+	┢	tissue perfusion f/r	H			Archythmia	+			+	H	edema, canillaru refill, oranosic)
ظهر	Detection		++	-	0 1 2 3	4 5 6 7 8 9 10		+	⊢				+	Arriyonnia Mara astalal arrivo	+		+	+	H	Adaption for the energy of each share and an energy of the
A ARATE	Hematomac		+	- 2		$\overline{\bigcirc}$ $\overline{\bigcirc}$ $\overline{\bigcirc}$		+	┝	Risk for bleeding f/r	_			Capillany refill	+			+	H	Intervening in rhythm disturbances, reassessing
de en	Wounds			-0		🙂 🖯 🖯 🔁		+	t	Risk for electrolyte				Hyponatremia,	+			+		Coordinate sample collection, assess coagulation
Skin and	Hydrated				Level of	1. Alert			L	imbalance f/r				hypernatremia, hypokalemia,					L	analysis including PT, aPTT, monitor bleeding.
mucous	Pale		Π		onsciousn	2. Lethargy	IT		Г	Anxiety abouth death			T	Fear of pain				T		Management of anticoagulant treatment
membranes	Cyanosis	\square	+	-"	855	3. Stupor	\vdash	+	+	Fear				Sadness		\square	$\left \right $	+		Monitor renal function, levels of urea and creatinine
DATTON: C	cuema or swelling	Ц	-	+		e. coma	\vdash	+	⊢	December of the set			_	Autophobia	-	++	+	+	Н	Monitor socium and potassium levels, perform BHE
FALLERN 3	Normal		T T	-	ł	1. FIIOTOFEACTIVE	\vdash	+	⊢	rressure uicers			-	Emocional balance		\square	+	+	Н	Emotional support, Spiritual support
	Oliguria	\vdash	+	-	uoli5	2. ISUCUTIC 2. Anicocoria	\vdash	+	+	Grade	Η	\vdash	+	Anxiety level		ш.	ш	_	Ц	NOC INDICATORS MEASUREMENT SCALE
Diuresis	Anuria	\vdash	+	-	6m	3 Mydriatic	H	+	+	남자 사가	Η	\vdash	+	reilpheral a	Ne sta	182	1	catio	n	0. Normal
	Coluria					4. Miotic	Ш		L				1	Peripheral intravenous catheter (Pl	V)				È	1: Mild
	polyuria					1. Anosmia			Γ					Nasogastric Tube						2: Moderate
	Normal		Ш		son dems	2. Dysgeusia			L	LMA & M &		L		Urinary catheter						3: Severe
Intestinal	Constipation		4	et prov	3. Aphasia			ſ		Ŧ	LТ	T	Chest tube	T			T			
	Liquid stools	\vdash	+++		4. Dysarthria		\vdash	+	+	FRONT BACK SIDE				Pending Night Shift Tasks:					щ	Pending Night Shift Tasks:
Tissue	Diapnoresis		+	P	ATTERN 7	1	\vdash	+	⊢	Braden Scale:			-						_	
DATTON: -	Night sweats	ш		-	2	Irritability	\vdash	+	⊢	Hign risk: < 12	\square	\vdash	+	-					_	
PATTERN 4	PATTERN 4 Activity 1. Polignea 2. Orthopnea			-	tate	rear of loneliness	S	+	Moderate risk	\vdash	\vdash	+						_		
Activity				-	e s	Agitation		+	+	Low risk: 15-18	\vdash	\vdash	+						_	
1. Polignea				_	-	Fear of death		L	RISK (H) (M) (L)	Ш		ட								
3. Moaning	3. Moaning 4. Apnea		+	D	Downton Fall Risk Index:					Oxygen therapy		Flov	ow		there also and also also also also					
5. Dyspnea 6. Retractions		\square	+	H	tigh risk:	3 or more	\vdash	+	+	1. Binaural cannula		\vdash	+	Nurse stamp and signature: D	\$				_	Nurse stamp and signature: NS
 Use of acc 	cesory muscles		+	N	voderate ri	SK: 1-2	\vdash	+	+	2. Keservoir mask		\vdash	+						_	
Vesicular	Vesicular ACP 1. YES 2. NO		+	LI LI	ow risk:	u to 1	\vdash	+	+	3. venturi mask		H	+						_	
breath sounds	1.HE-R/2.HI-L		11	R	RISK (H) (M)) (L)			1	4. High-flow				1						

Results

Phase 1 audit showed non-conformities in progress records (66,7%), Kardex (65%), graphical sheets and fluid balance (70%).

The new nursing record format shows applicability of Marjory Gordon's model (80%), NANDA taxonomy (90%), and NOC and NIC taxonomy (80%) The following were rated as good: Content and attributes (90%), record's quality (92%) and design

Impact

(100%)

With the implementation of a new Nursing record during the COVID-19 pandemic, Emergency Nursing demonstrated its ability to adapt and implement strategies immediately, with teamwork, empathy, and solidarity; establishing processes for improving the evidence of care provided; with active participation for its immediate implementation.

