Hussein-Cobos S, et al. https://doi.org/10.37551/S2254-28842024018

Designing strategies for comprehensive care for a patient with a language barrier on haemodialysis treatment: a case report

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Please cite this artcle in press as:

Hussein-Cobos S, Calvo-Báscones M, Barroso-San Juan L. Designing strategies for comprehensive care for a patient with a language barrier on haemodialysis treatment: a case report. Enferm Nefrol. 2024;27(3):150-7

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Reception: 07-13-24
Acceptance: 07-31-24
Publication: 06-30-24

ABSTRACT

Case description: A 58-year-old woman recently arrived in our country as a refugee from Ukraine due to the war. In her country of origin, she was diagnosed with lupus nephropathy with advanced chronic renal disease and was oriented toward haemodialysis. When the war started, she was waiting for an arteriovenous fistula to be made. She went to the emergency department for assessment, and it was decided to begin renal replacement therapy due to the progression of her disease. The patient only speaks Ukrainian, presenting a significant language barrier hindering the health care process.

Description of the care plan: The patient is assessed according to Marjory Gordon's functional patterns. Nursing diagnoses are identified following NANDA (North American Nursing Diagnosis Association) terminology. NOC (Nursing Outcomes Classification) objectives and NIC (Nursing Interventions Classification) interventions are proposed.

Evaluation of the plan: The care plan is evaluated after the interventions have been carried out (infographics, using Google translate), analysing the indicators associated with each NOC objective and their evolution during the period the patient is monitored.

Conclusions: IIn this clinical case, applying the Nursing Care Process and designing strategies to reduce communication difficulties resulted in overcoming the language barrier, making it possible to identify the patient's needs. This allowed us to resolve her doubts about her treatment and address the other health problems detected.

Keywords: nursing care plans; nursing care; language barrier; communication; haemodialysis.

RESUMEN

Diseño de estrategias para la atención integral en una paciente con barrera idiomática en tratamiento con hemodiálisis: a propósito de un caso

Descripción caso: Mujer de 58 años, recién llegada a nuestro país como refugiada desde Ucrania a raíz del conflicto bélico. En su país de origen es diagnosticada de nefropatía lúpica con enfermedad renal crónica avanzada orientada a hemodiálisis. Cuando comienza la guerra, está pendiente de realización de fístula arteriovenosa. Acude a urgencias para su valoración y se decide inicio de tratamiento renal sustitutivo por la progresión de su enfermedad. La paciente sólo habla ucraniano, presentando una importante barrera idiomática que dificulta todo el proceso de atención sanitaria.

Descripción del plan de cuidados: Se realiza una valoración de la paciente según los patrones funcionales de Marjory Gordon, se identifican los Diagnósticos de enfermería siguiendo terminología NANDA (North American Nursing Diagnosis Association), se plantean objetivos NOC (Nursing Outcomes Classification) e intervenciones NIC (Nursing Interventions Classification).

Evaluación del plan: La evaluación del plan de cuidados se lleva a cabo tras la realización de las intervenciones (infografías, uso Google translate), analizando los indicadores asociados a cada objetivo NOC y su evolución durante el periodo en el que se realiza el seguimiento de la paciente.

Conclusiones: En este caso clínico, la aplicación del Proceso de Atención de Enfermería y el diseño de estrategias para reducir las dificultades de comunicación dieron como resultado la superación de la barrera idiomática, haciendo posible la identificación de las necesidades que la paciente presentaba. De esta forma, se logró la resolución de las dudas que planteaba sobre su tratamiento, así como el abordaje del resto de problemas de salud detectados.

Palabras clave: planes de atención de enfermería; cuidados de enfermería; barrera del idioma; comunicación; hemodiálisis.

1. INTRODUCTION

In recent years, there has been an increase in the immigrant population in our country and, consequently, a rise in the demand for health services from this group[1].

Within this population, certain nationalities present greater challenges in health care delivery due to having a less widely spoken native language. This condition often leads to difficulties in mutual understanding between health care professionals and patients, creating a communication barrier that impacts the quality of care[1].

Communication problems that may have a significant impact on the quality of health care are diverse[2]. First, the lack of understanding between patients and health care professionals can lead to confusion and misinterpretation regarding treatment and care instructions. This may result in inappropriate disease management, poor treatment adherence, and other issues relevant to health care.

Furthermore, the difficulty patients face in accurately expressing symptoms can lead to a lack of essential information for an adequate diagnosis and treatment.

Finally, the mistrust and frustration arising from ineffective communication between patients and health care professionals can negatively affect the overall health care relationship. This can hinder patient cooperation and, ultimately, reduce satisfaction with care.

Given the growing number of situations involving language barriers, the active participation of nursing professionals is increasingly required to ensure equitable, high-quality health care for all patients, regardless of language or background[3].

To address the challenge of improving the quality of health care for immigrant patients facing communication barriers, several measures may be implemented[4,5]. Firstly, it is essential to provide interpretation services in the health care setting. These services facilitate communication between health professionals and patients, ensuring mutual understanding. In situations where interpretation services are unavailable, information and communication technology (ICT) tools, such as Google Translate, may be useful for meeting basic communication needs.

Another important measure is the acquisition of language skills by health care professionals. Training in commonly spoken languages can significantly improve communication with a substantial proportion of the immigrant population, thereby enhancing quality of care.

Additionally, providing multilingual materials and resources—such as infographics and documents in different languages—represents an effective strategy to overcome linguistic barriers and ensure high-quality care that is both accessible and comprehensible to all patients, regardless of cultural or linguistic background.

In summary, it is essential to address communication barriers in health care by implementing measures that improve the quality of care. The aim of this study is to describe, analyse, and present the conclusions drawn from applying an individualised care plan to a haemodialysis patient presenting with communication barriers.

2. CASE PRESENTATION

A 58-year-old woman attended the emergency department on March 15th 2022, having recently arrived in our country as a refugee from Ukraine due to the armed conflict. She had been diagnosed in her country of origin with lupus nephropathy and advanced chronic kidney disease (CKD) requiring haemodialysis, pending arteriovenous fistula creation when the war began.

She presented with a significant language barrier. Communication during health care delivery was mediated through a relative.

Examination: Blood pressure 135/80 mmHg; heart rate 100 beats per minute (bpm); oxygen saturation 96%; afebrile. Conscious and oriented, normohydrated, eupnoeic at rest, acceptable general condition. Rhythmic heart sounds, no murmurs. Vesicular breath sounds preserved, no added noises. Lower limbs without oedema or signs of venous thrombosis.

Additional tests: Relevant laboratory data: creatinine 6.55 mg/dL; urea 190 mg/dL; pH 7.4; bicarbonate 22.7 mmol/L.

Clinical course: The patient was admitted due to disease progression requiring initiation of renal replacement therapy with haemodialysis. On March 17th 2022, a right internal jugular tunnelled central venous catheter was inserted.

On March 22nd 2022, she received her first haemodialysis session in the Haemodialysis Unit of *Hospital Universitario La Paz* (Madrid, Spain).

Main diagnosis: Stage 5 chronic kidney disease secondary to advanced lupus nephritis with initiation of renal replacement therapy.

On March 24th 2022, she began treatment in the chronic haemodialysis unit, where the nursing staff identified the language barrier as a problem for health care delivery.

3. NURSING ASSESSMENT ACCORDING TO MARJORY GORDON'S FUNCTIONAL HEALTH PATTERNS

An initial assessment was performed following Marjory Gordon's functional health patterns[6] to determine which parameters were altered.

3.1 Health Perception – Health Management
The patient reported no known drug or food allergies, and no intolerances. She stated that her vaccination schedule was complete according to her country of origin, except for influenza and COVID-19 vaccines.

She reported never having smoked and not habitually consuming alcohol.

She expressed difficulty adapting to Spain after being forced to leave her country due to the armed conflict. She currently reported feeling better since starting haemodialysis, though she expressed doubts about her treatment.

She was aware that her lifestyle would need to change, as CKD particularly affects metabolic and nutritional status, requiring dietary modifications.

3.2 Nutritional – Metabolic
Weight: 57 kg.
Height: 162 cm.
Body mass index (BMI): 21.7 kg/m^2.

She reported a good appetite with no difficulties in chewing or digestion.

She reported no food intolerances. Since being diagnosed with CKD and starting haemodialysis, she expressed doubts about which foods she can or cannot eat.

Regarding fluid intake, she knew it was restricted to 1.5 L/day. She maintained good personal hygiene with skin, nails, and mucosa intact. She also maintained good oral hygiene and did not use dental prostheses.

Norton scale: 20, with no risk of pressure ulcer development. At the time of assessment, her body temperature was 36.7 °C.

3.3 Elimination
She was fully continent and maintained a residual urine output of 1200 mL/day. Bowel pattern: no incontinence or constipation.

3.4 Activity – Exercise
Systolic blood pressure: 152 mmHg.
Diastolic blood pressure: 85 mmHg.
Heart rate: 82 bpm.
Baseline oxygen saturation: 99%.

Barthel Index: 100 (fully independent). She did not require help with self-care and had no physical barriers preventing exercise. She reported walking as her main physical activity.

3.5 Sleep – Rest
She reported usually sleeping 8 hours per night. Sleep was restorative, as she typically felt rested upon waking. She required no assistance to sleep.

3.6 Cognitive – Perceptual
The patient was alert and oriented in the three spheres (time, space, person). Glasgow Coma Scale: 15/15.

No cognitive or perceptual alterations were noted; however, communication was impaired due to the language barrier. The nursing assessment was conducted using the Google Translate application on mobile devices.

She had a visual impairment requiring corrective glasses.

3.7 Self-perception – Self-concept
She reported that the language barrier was hindering her adaptation but displayed a positive attitude.

Regarding her CKD, she seemed adapted to haemodialysis and expressed interest in kidney transplantation.

3.8 Role – Relationships
She reported living with her sister.

3.9 Sexuality
No alterations reported.

3.10 Coping – Stress Tolerance
She reported that the start of the hospitalisation process was complicated due to the language barrier. She now appeared calmer and more relaxed, attempting to communicate with the nursing staff through Google Translate on her mobile device.

3.11 Values – Beliefs
She reported no beliefs interfering with her care or health status.

4. NURSING DIAGNOSES

The following nursing diagnoses were formulated based on the assessment, where certain altered patterns were identified.

For the diagnoses, the P.E.S. format (problem, aetiology/related factors, and signs/symptoms or defining characteristics) and the NANDA taxonomy were used[7].

Nursing diagnoses:

1. Impaired verbal communication [050101] r/t individuals with communication barriers as evidenced by inability to speak the caregiver's language.
2. Excess fluid volume [00026] r/t excessive fluid intake aeb blood pressure changes, anasarca, dyspnoea, and oedema.
3. Risk of constipation [00015] r/t inadequate dietary habits.

5. PRIORITISATION AND CARE PLAN

5.1 Prioritisation

Of the above diagnoses, "Impaired verbal communication (00051) r/t individuals with communication barriers as evidenced by inability to speak the caregiver's language" was selected as the priority diagnosis, as communication between nursing staff and the patient is essential to address the other nursing diagnoses.

5.2 Care Plan

Following identification of the diagnoses/problems, a care plan was designed, planning the appropriate NOC outcomes and NIC interventions for each.

Table 1 details the proposed NOC nursing objectives for each diagnosis with associated indicators, and the NIC nursing interventions with the corresponding activities.

6. EVALUATION OF THE CARE PLAN

The care plan was evaluated after implementation of the interventions, analysing the progress observed in the indicators associated with each NOC objective during the month of patient follow-up.

The main achievements observed following implementation of the individualised care plan included:

Table 1. Care plan for the identified nursing diagnoses.

NURSING DIAGNOSIS: RISK OF CONSTIPATION [00015]	
NOC	**INDICATORS**
[0501] Bowel elimination.	**[050101]** Elimination pattern.
[1902] Risk control.	**[190220]** Identifies risk factors. **[190208]** Modifies lifestyle to reduce risk.
NIC	**ACTIVITIES**
[0430] Bowel control.	– Record problems with bowel function, bowel routine, and previous use of laxatives. – Teach the patient specific foods that help achieve an adequate bowel rhythm.
[0450] Constipation/impaction management.	– Monitor for signs and symptoms of constipation. – Monitor for signs and symptoms of faecal impaction. – Explain to the patient the aetiology of the problem and the rationale for interventions.
NURSING DIAGNOSIS: EXCESS FLUID VOLUME [00026]	
NOC	**INDICATORS**
[0601] Fluid balance.	**[060101]** Blood pressure. **[060107]** Balanced daily intake and output. **[060112]** Peripheral oedema. **[060123]** Muscle cramps.
[0603] Severity of fluid overload.	**[060308]** Generalised oedema. **[060317]** Increased blood pressure. **[060318]** Weight gain.

NIC	ACTIVITIES
[4120] Fluid management.	– Observe for signs of fluid overload/retention (crackles, increased central venous pressure or blood pressure, pulmonary capillary wedge pressure, oedema, jugular venous distension, ascites), as appropriate. – Monitor changes in patient weight before and after dialysis, if applicable. – Monitor fluid intake.
[2100] Haemodialysis therapy.	– Observe for signs of fluid overload/retention (as above), as appropriate. – Monitor changes in patient weight before and after dialysis, if applicable.

NURSING DIAGNOSIS: IMPAIRED VERBAL COMMUNICATION [00051]	
NOC	**INDICATORS**
[0903] Communication: expressive.	**[90305]** Uses drawings and illustrations. **[90307]** Uses non-verbal language. **[90310]** Uses alternative communication devices.
[0904] Communication: receptive.	**[90403]** Interpretation of drawings and illustrations. **[90405]** Interpretation of non-verbal language. **[90408]** Use of augmentative communication devices.

NIC	ACTIVITIES
[5515] Improve access to health information.	- Communicate taking into account appropriateness according to culture, age, and sex. - Obtain interpreter services if necessary. - Provide essential written and oral information to the patient in their native language. - Use multiple communication tools (eg, computers, pictograms). - Encourage the use of effective strategies to cope with barriers to accessing health information (eg, being persistent when asking for help, bringing a written list of questions to each visit, seeking assistance from family members or friends when obtaining health information).

- Resolution of doubts related to diet and fluid intake, improving interdialytic weight gain.
- Reduced concern regarding episodes of permanent venous catheter dysfunction.
- Increased confidence due to having the means to communicate with nursing staff.

The results are shown in **table 2**.

The **next table** details the specific scales used for evaluation of each indicator as defined in the NANDA-NIC-NOC Consult (NNNConsult).

Table 2. Evaluation of the care plan.

NANDA Diagnosis	NOC Objective	Indicators	Evaluation Scale	Initial Value	Final Value
[00015] Risk of constipation	NOC **[0501]** Bowel elimination.	**[050101]** Elimination pattern.	Scale 1	5	5
	NOC **[1902]** Risk control.	**[190220]** Identifies risk factors.	Scale 13	5	5
		[190208] Modifies lifestyle to reduce risk.	Scale 13	5	5

NANDA Diagnosis	NOC Objective	Indicators	Evaluation Scale	Initial Value	Final Value
[00026] Excess fluid volume.	NOC **[0601]** Fluid balance.	**[060101]** Blood pressure.	Scale 1	5	5
		[060107] Balanced daily intake and output.	Scale 1	4	5
		[060112] Peripheral oedema.	Scale 14	5	5
		[060112] Muscle cramps.	Scale 14	5	5
	NOC **[0603]** Severity of fluid overload.	**[060308]** Generalised oedema.	Scale 14	5	5
		[060317] Increased blood pressure.	Scale 14	5	5
		[060318] Weight gain.	Scale 14	3	5
[00051] Impaired verbal communication.	NOC **[0903]** Communication: expressive.	**[90305]** Uses drawings and illustrations.	Scale 1	3	5
		[90307] Uses non-verbal language.	Scale 1	3	5
		[90310] Uses alternative communication devices.	Scale 1	1	5
	NOC **[0904]** Communication: receptive.	**[90403]** Interpretation of drawings and illustrations.	Scale 1	5	5
		[90405] Interpretation of non-verbal language.	Scale 1	5	5
		[90408] Use of an augmentative communication device.	Scale 1	3	–

Table. Specific scales used for the evaluation of each indicator (Defined according to NANDA NIC NOC Consult [NNN Consult]).

INDICATORS	SCALES
[050101], [060101], [060107], [90305], [90307], [90310], [90403], [90405], [90408]	**SCALE 1** 1. SEVERELY COMPROMISED 2. SUBSTANTIALLY COMPROMISED 3. MODERATELY COMPROMISED 4. MILDLY COMPROMISED 5. NOT COMPROMISED
[190220], [190208]	**SCALE 13** 1. NEVER DEMONSTRATED 2. RARELY DEMONSTRATED 3. SOMETIMES DEMONSTRATED 4. FREQUENTLY DEMONSTRATED 5. ALWAYS DEMONSTRATED
[060112], [060123], [060308], [060317], [060318]	**SCALE 14** 1. SEVERE 2. SUBSTANTIAL 3. MODERATE 4. MILD 5. NONE

7. DISCUSSION

In health care, the inability to communicate effectively with a foreign patient acquires particular significance.

However, the translation services offered by health care centres remain scarce in the face of growing demand associated with the increasing immigrant population.

When treating a foreign patient, health care professionals seek alternative ways to communicate, attempting various solutions in the absence of interpreter services.

A study published in *Panacea* investigating how communication is carried out between staff of the Canary Islands Health Service and foreign patients revealed that staff employed a range of methods: relying on bilingual colleagues or relatives (95%), using

non-verbal language or basic knowledge of English (92%), attempting communication in English (51%), employing the Wong-Baker facial scale (5%), and using automatic translation systems such as Google Translate (6%)[8].

Meanwhile, advances in new technologies with the development of tools such as *Doctor Speaker*, *Tradassan*, and *Hipot* cnv provide health care staff with communication instruments. Yet, the question arises: are these tools reliable?

Several studies[8-11] have examined the reliability and usefulness of medical translation applications, such as the research published in the *Journal of the American Medical Association (JAMA)* on Google Translate[9]. The study concluded that automatic translation for medical instructions has significant limitations in both methodology and evaluation. The translation quality of such tools is questionable, undermining the validity of the results.

Another study, published in *The Journal of Medical Internet Research (JMIR)*, also aimed to assess iPad-compatible language translation applications to determine their suitability for everyday conversations in health care environments.10 The study concluded that no application should replace professional interpreters, underscoring the need for further research in this field.

The case report presented here illustrates how, in situations where language barriers exist, tools such as Google Translate and the creation of infographics may be used to facilitate communication and patient education regarding treatment.

However, in line with previous studies, it was noted that despite their usefulness, these tools sometimes led to confusion and misunderstandings with the patient. This highlights the importance of further research into the effective integration of translation technologies in health care, in collaboration with professional interpreters, to improve care and communication with patients facing linguistic barriers.

The use of the NANDA, NOC, and NIC taxonomies in applying the nursing process enables nursing professionals to employ a common language in the development of the nursing scientific method. This facilitates nursing care that is dynamic, deliberate, conscious, structured, and systematised.

In this case, the identification of the language barrier affecting professional–patient mutual understanding, and the subsequent design of strategies to reduce communication difficulties, enabled resolution of treatment-related doubts and facilitated the management of the other health problems identified.

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