

Chapter 5

Model of care for patients with relapsing-remitting multiple sclerosis in terms of the International Classification for Nursing Practice (ICNP®)

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Abstract

The relapsing-remitting form of multiple sclerosis (MS) dominates among patients diagnosed with this disease. The relapse time often requires inpatient care due to the need to implement specialist diagnostic and therapeutic procedures. The neurological deficit accompanying the relapse period determines differentiated health problems, and their resolution will be facilitated by the use of the indications present in the model of care. The traditional language and structure of the model has been replaced by the terminology of the ICNP®.

Key words: multiple sclerosis, relapse, model of care, ICNP®

Introduction

Every year multiple sclerosis (MS; Latin: *sclerosis multiplex*) is diagnosed in between 1,300 and 2,100 people in Poland, while the total number of people suffering from the disease is currently estimated at around 55,000 [1,2]. Most frequently (in around 90% of cases) MS is of a relapsing-remitting nature (RRMS, relapsing-remitting multiple sclerosis). A relapse is a clinical occurrence characterised by various symptoms of damage to the CNS (central nervous system). Its spectrum may be either random or conditioned by previously occupied structures of this system. A relapse is determined not only by the type of symptoms but also by how long they persist, which must be longer than twenty-four hours, and at least one month must have passed since the last relapse [3,4]. On the basis of previous observations, risk factors for the exacerbation of MS have been identified, including hormone imbalances linked to the postpartum period, viral infections and stressful situations [5].

A patient with a moderate or serious relapse is hospitalised because of the necessity to repeat diagnostic procedures and begin treatment whose purpose is to eliminate the active inflammatory state of the CNS [6]. Planning patient care is facilitated by a care model, which represents a theoretical framework for guiding decisions in a specific clinical situation. This model is made up of three elements, i.e. a nursing diagnosis/health problem, the aim of the care and a plan of action/nursing interventions [7].

The ICNP[®] (International Classification for Nursing Practice) is a tool in the form of a ready-made electronic taxonomy which provides standardised terminology (together with digital codes) for the purposes of classifying states that a nurse can recognise in a specific care recipient, as well as planned actions and actions undertaken in order to obtain care outcomes. The reference terminology is listed in a dictionary that contains terms that describe the tasks performed by nurses in the form of the ICNP[®]. The terms are classified along seven main axes (Client, Judgement, Focus, Time, Location, Means and Action). The axis structure of the classification allows a detailed diagnosis to be made by choosing the terms from these axes. The diagnosis catalogues are constructed according to

coherent guidelines. The phrases that name the diagnoses, nursing interventions and outcomes are created according to ISO standards. A nursing diagnosis is required to contain a term from the 'Focus' axis and one from the 'Judgement' axis. A nursing intervention is required to contain a term from the 'Action' axis and at least one that identifies the purpose from an axis other than the 'Judgement' axis [8,9]. Considering the diversity and dynamics of the symptoms of MS, the material presented in this study is an attempt to develop a care model for the relapsing-remitting form of MS within the framework of the ICNP[®]. In addition to the literature review, it features a case study.

Case study

The patient L.K., who is 39 years old, has been treated for relapsing-remitting MS for seventeen years. During this time he has been hospitalised four times due to relapses of the underlying disease. The last relapse before his current stay in hospital was four years ago. The patient has been taking Avonex 30 µg intramuscularly once a week for two years. The reason for his current, fifth, hospitalisation was a notable deterioration in his neurological condition. In the opinion of the patient some of symptoms of this deterioration were present several days before he was admitted to hospital (i.e. difficulties passing urine, migraines, blurred vision, increasing fatigue). Others, i.e. dizziness, sensory disturbances such as a tingling sensation in the left-hand side of the face, left-sided muscle weakness, slurred and unclear speech as well as difficulties swallowing food and with fluid intake, which manifest itself in a feeling of choking and the presence of coughing, appeared on the day of hospital admission or immediately prior to it. The patient is capable of performing hygiene tasks independently, such as toileting and shaving, changing his underwear, but he needs help in covering longer distances and uses a stick for this. The neurological tests performed since he was admitted have revealed the presence of superficial sensory disturbances in the lower limbs, nystagmus, and increased tension in the paraspinal muscles.

During his current hospitalisation the patient has undergone certain diagnostic procedures, such as an MRA of the head, cerebrospinal fluid analysis, ophthalmological and laryngological examination and an ultrasound of the urinary bladder. The MRA examination revealed the presence of active degenerative changes in the brain and a process of demyelination. The ultrasound image indicated urine retention in the urinary bladder. The procedure for examining cerebrospinal fluid was associated with post-lumbar puncture headache, which the patient developed in the evening of the day of the examination and manifested itself in nausea and dizziness.

Analysing the patient's condition at the time of the examination, that is over the course of four days, a slight change in the patient's functional status was observed, that is, how he moves about (initially in a wheelchair, later he could move around without the aid of a stick or the assistance of a nurse). Meals were given to the patient orally, although coughing appeared while he was eating. Due to the persistent difficulties in passing urine, a Foley catheter was fitted to the patient's bladder. On the fourth day of the patient's stay, rehabilitation and a consultation with a speech therapist were scheduled. His mood was stable.

During this period the patient's general condition was good and stable. The vital signs were as follows: arterial blood pressure: from 130/80 to 120/80 mmHg, pulse from 65 to 75 beats per minute, saturation (SPO₂) 96% and body temperature 36.6°C. A somatic problem reported by the patient was headache, which upon admission was assessed at five points on the NRS along with lower back pain. Pharmacological treatment included methylprednisolone (Solu-Medrol 500 mg intravenously once a day), Nilogrin 10 mg (by mouth three times a day), Neiraxin B 2 ml (intramuscularly once a day), Naproxen 250 mg (by mouth three times a day), Baclofen 25 mg (by mouth three times a day), and Mexifin 100 mg (intramuscularly once a day). The patient is married, has two children and does not work.

Nursing diagnoses [8]

Diagnosis 1. Self-care deficit [10023410]

Interventions (IC)	Actions (A)	Means (M)
assessing self-care [10021844] + assessing needs [10033368] + care planning [10035915]	observing [10013474] interview [10010542] assessing [10002673]	assessment tool [10002832]; Barthel Index nurse [10013333] care plan [10003970]
assisting with self-care [10035763] + implementing a safety regimen [100036565]	assisting with hygiene [10030821] washing [10020935] skin care [10032757] perineal care [10045154] oral care [10032184] positioning patient [10014761] dressing and undressing [10008425] feeding [10007786] ensuring continuity of care [10006966]	dressing [10002589] bathing device [10003147] nurse [10013333]

Diagnosis 2. Impaired mobility [10001005] + risk of fall [10015122] + risk of injury [10015146]

Interventions (IC)	Actions (A)	Means (M)
assessing mobility [10030527] + assessing risk for falls [10023520] + assessing risk for transfer injury [10030723] + care planning [10035915]	checking [10005142] monitoring [10012154] observation [10013474] documenting [10006173]	nurse [10013333] assessment tool [10002832]
assisting with mobility [10036508] + implementing a safety regimen [100036565]	assisting [10002850] mobility [10020030] supervising [10019093] observation [10013806]	nurse [10013333] walking stick [10020893] wheelchair [10021052]
collaborating with interprofessional team [10039416]	conversation [10019436] consulting [10005017] reporting [10016771]	nurse [10013333] multidisciplinary team [10039400]

Diagnosis 3. Impaired communication [10023570] + unclear speech [10018304] + patient [10014132]

Interventions (IC)	Actions (A)	Means (M)
assessing ability to communicate by talking [10030515]	checking [10005142] monitoring [10012154] observation [10013474] documenting [10006173]	nurse [10013333]
identifying obstruction to communication [10009683]	analysing [10002298] checking [10005142] planning [10014648]	nurse [10013333] plan [10014630]
forming relationships [10016678]	listening [10011383] providing company [10015575] supporting [10019142]	nurse [10013333]
collaborating with interprofessional team [10039416]	conversation [10019436] consulting [10005017] reporting [10016771]	nurse [10013333] multidisciplinary team [10039400]

Diagnosis 4. Impaired swallowing [10001033]

Interventions (IC)	Actions (A)	Means (M)
assessing swallowing [10050155]	checking [10005142] monitoring [10012154] observation [10013474] documenting [10006173]	assessment tool [10002832]: eat nurse [10013333] carer [10003958]
teaching about eating pattern [10032918]	educating [10006230] teaching [10019502] responding [10017004] supporting [10019142]	nurse [10013333] swallowing technique [10019352]
monitoring food intake [10036614] + implementing a safety regimen [100036565]	checking [10005142] monitoring [10012154] supervising [10019093] observation [10013474] documenting [10006173]	nurse [10013333] carer [10003958]

Diagnosis 5. Impairments of active range of motion [10040173] + paresis [10014075] + joint contracture [10010978] + skeletomuscular pain [10012337]

Interventions (IC)	Actions (A)	Means (M)
identifying physiological status [10009612]	observation [10013474] assessing [10002673]	assessment tool [10002832]
positioning patient [10014761]	positioning [10014575]	positioning technique [10014774] nurse [10013333]
collaborating with interprofessional team [10039416]	conversation [10019436] consulting [10005017] reporting [10016771]	nurse [10013333] multidisciplinary team [10039400]

Diagnosis 6. Urinary dysfunction [10021790] + risk of infection [10015133]

Interventions (IC)	Actions (A)	Means (M)
managing urinary incontinence [10031879] + using bladder training technique [10045219]	observation [10013474] assessing urinary continence [10030781] teaching about managing urinary incontinence [10045261]	bladder training technique [10009957] nurse [10013333]
managing urinary catheter [10031977] + urinary catheter care [10033277]	promoting hygiene [10032477] assisting with hygiene [10030821] maintaining dignity and privacy [10011527]	nurse [10013333]
prevention of infection [10036916]	symptom control [10025812] collaborating with physician [10023565]	nurse [10013333]

Diagnosis 7. Risk for medication side effect [10037604]

Interventions (IC)	Actions (A)	Means (M)
monitoring [10012154]	measuring blood pressure [10031996] measuring heart rate [10036826] measuring blood glucose [10041212] monitoring fluid balance [10040852] observation [10013474] documenting [10006173]	assessment tool [10002832]: Glucose meter + CT scanner + fluid balance chart + nurse [10013333]
checking symptoms [10025820]	conversation [10019436] observation [10013474] assessing [10002673] documenting [10006173]	nurse [10013333]

Interventions (IC)	Actions (A)	Means (M)
administering medication [10025444]	monitoring medication side effects [10043884] assessing risk for adverse medication interaction [10045940] medication handling [10040708] providing medication schedule [10043185]	medication administration technique [10006322] medication [10011866] drip [10006295] medication schedule [10043171] intravenous cannula [10020677] nurse [10013333] physician [10014522] medication [10011866] nurse [10013333]
collaboration with a multidisciplinary and interdisciplinary team [10039416]	conversation [10019436] consulting [10005017] reporting [10016771]	nurse [10013333] multidisciplinary team [10039400]

Summary

A period of relapse in an MS patient is accompanied by many health problems, including impaired verbal communication and a self-care deficit in food and fluid intake, mobility, the risk of complications caused by altered muscle tone and sensing pain. The recommended pharmacological treatment (intravenous steroid therapy) is also associated with adverse effects of the drug, such as swelling, a transient increase in blood pressure and gastrointestinal disturbances, including bleeding from the gastrointestinal tract, psychological disorders, namely anxiety, mood swings and insomnia [10]. The care model can be defined as a pattern for how one should proceed when performing specific tasks [7]. This model pertained to the exacerbation period in RRMS. The critical analysis of ICNP[®] in the clinical situation described in this chapter indicates that terminology essential to plan a course of action, or measures appropriate for it, does not exhaust the specifics of care for a patient with RRMS. Terminological gaps should therefore be gradually filled in by a team of professionals, to ensure that the catalogue of diagnoses becomes a tool to be applied to every area of nursing. In order to address

the deficit in nursing terminology the authors of this chapter are planning to take further action by mapping it and conducting an assessment. This type of work has already been undertaken by specialists from other areas of nursing [11].

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