Universitat Autònoma de Barcelona

2023/2024

Neonatal and Early Neuropediatric Attention

Code: 101693
ECTS Credits: 6

Degree	Type	Year	Semester
2500893 Speech therapy	OT	4	2

Contact

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Teaching groups languages

You can check it through this link. To consult the language you will need to enter the CODE of the subject. Please note that this information is provisional until 30 November 2023.

Teachers

Pere Jordi Fàbregas Batlle

Raquel Garcia Ezquerra

Prerequisites

None. It is advisable to have completed and refreshed the contents of "Deglució i transtorns relacionats: valoració i intervenció", " Canvis biològics en el cicle vital: implicacions per a la logopèdia " " Patologia de la audició, la parla, la veu i la deglució " and " Neurologia del llenguatge "

Objectives and Contextualisation

The objective of the subject is to achieve competences in: Main events and phases of pre and postnatal development. Basic concepts related to physical birth defects, teratology and pathologies that affect the baby. General introduction to neonatology and neuropaediatrics. Neurodevelopment and sensory and cognitive maturation. Life-threatening neonates and/or neurological sequelae. Evaluation of motor, sensory, cognitive and language development. Neurosensory and cognitive stimulation in neonates. Family advice in neonatology. Interdisciplinary intervention and interinstitutional collaboration.

Competences

- Act appropriately with respect to the profession's ethical code: respect professional confidentiality, apply professional criteria in the completion and referral of treatment.

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Analyse and synthesise information.
- Critically evaluate the techniques and instruments of evaluation and diagnosis in speech therapy, as well as its procedures of intervention.
- Demonstrate an understanding and correct use of the terminology and methodology of speech-therapy research.
- Demonstrate an understanding of disorders in communication, language, speech, hearing, voice and non-verbal oral functions.
- Design, implement and evaluate actions aimed at preventing communication and language disorders.
- Explore, evaluate, diagnose and produce a prognosis of development for disorders of communication and language, from a multidisciplinary perspective.
- Identify, analyze and solve ethical problems in complex situations.
- Integrate the foundations of biology (anatomy and physiology), psychology (evolutionary processes and development), language and teaching as these relate to speech-therapy intervention in communication, language, speech, hearing, voice and non-verbal oral functions.
- Make decisions and take responsibility for them.
- Reflect on and research into language and its treatment so as to help develop the profession.
- Students can apply the knowledge to their own work or vocation in a professional manner and have the powers generally demonstrated by preparing and defending arguments and solving problems within their area of study.
- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- Students must develop the necessary learning skills in order to undertake further training with a high degree of autonomy.
- Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
- Take account of social, economic and environmental impacts when operating within one's own area of knowledge.
- Take sex- or gender-based inequalities into consideration when operating within one's own area of knowledge.

Learning Outcomes

1. Analyse and synthesise.
2. Analyse the indicators of sustainability of academic and professional activities in the areas of knowledge, integrating social, economic and/or environmental dimensions.
3. Communicate in an inclusive manner avoiding the use of sexist or discriminatory language.
4. Consider how gender stereotypes and roles impinge on the exercise of the profession.
5. Critically analyse the principles, values and procedures that govern the exercise of the profession.
6. Describe and implement measures of early care in neonatal pediatrics for the prevention of language disorders.
7. Describe the main instruments of assessment and diagnosis in speech therapy and in related disciplines (neurology, neuropsychology, etc.), and identify their usefulness.
8. Establish a good semiotic and syndromic diagnosis from a suitable exploratoy process.
9. Explain the consequences on language and communication that may be involved in pre- and perinatal brain damage.
10. Explain the explicit or implicit code of practice of one's own area of knowledge.
11. Identify, analyze and solve ethical problems in complex situations.
12. In a well-argued manner, explain the influence of neonatal brain damage on language and communication.
13. Inform patients and/or their families about the expected outcome of the intervention, without giving false expectations
14. Make decisions and take responsibility for them.

15. Propose projects and actions that are in accordance with the principles of ethical responsibility and respect for fundamental rights and obligations, diversity and democratic values.
16. Propose viable projects and actions to boost social, economic and/or environmental benefits.
17. Relate anatomical, physiological and neurochemical disorders of the nervous system with patients' symptoms in the fields of communication, language, speech and eglutition.
18. Relate distinct concepts in order to establish a real and not compartmentalised diagnosis.
19. Students can apply the knowledge to their own work or vocation in a professional manner and have the powers generally demonstrated by preparing and defending arguments and solving problems within their area of study.
20. Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
21. Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
22. Students must develop the necessary learning skills in order to undertake further training with a high degree of autonomy.
23. Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
24. Use the basic terminology of research in the field of neurology, speech therapy and related disciplines.
25. Weigh up the impact of any long- or short-term difficulty, harm or discrimination that could be caused to certain persons or groups by the actions or projects.

Content

UNIT 1. Normal human development:

1. Molecular bases of development:
2. Human embryonic and fetal development
    1. Chronology of human prenatal development: embryonic and fetal periods.
    2. Maternal-fetal interaction: maternal and environmental developmental factors
    3. Placenta and fetal membranes:
3. Postnatal development
    1. Adaptation to postnatal life
    2. Newborn, breastfeeding, preschool, school and adolescent

UNIT 2. Anomalous development:

1. Physical birth defects: concept and classification
2. Teratology:
    1. Teratogenic factors and agents
    2. Epidemiology of anomalous development
3. Pathology of the newborn:
    1. Low birth weight, prematurity, sIUGR
    2. Nervous system defects
    3. Defects of the sense organs: vision and hearing.
    4. Defects of the cardiovascular system
    5. Respiratory system defects
    6. Developmental defects of the face and palate
    7. Digestive system defects

UNIT 3. Concept of neonatology, neurodevelopment and early stimulation

UNIT 4. Neonatology: diagnosis and intervention

1. Neonatal intensive care units (NICU)
2. Multidisciplinary diagnosis of the newborn
3. Speech therapist's intervention in the newborn

1. Orofacial stimulation
2. Food: SNN training
3. Food: neonatal dysphagia
4. Family approach

UNIT 5. Neurodevelopment

1. Monitoring risks throughout neurodevelopment
2. Risks and implications for language, speech, communication, feeding and swallowing.
3. Family approach

UNIT 6. Early stimulation: 0-6 years

1. Early detection and intervention in neurodevelopmental disorders
2. Family approach and accompaniment

Methodology

1. Theoretical sessions

Systematized exposition of the syllabus of the subject. For the acquisition of the basic scientific knowledge of the subject and that must be complemented with the personal study.

2. Practical sessions:

Practical sessions of observation and analysis of embryonic and fetal material from different species, analysis of clinical problems related to developmental alterations, evaluation of neurodevelopmental disorders and analysis of clinical cases related to neonatology.

These sessions promote group work and active learning.

3. Monographic work (TM):

TM constitutes evidence 3 of the subject.

In TM, students delve into a topic related to the subject of the subject, from a multidisciplinary perspective.

Methodology: TM is a group work. The result of the work carried out will be presented in a video format, of 5-10 minutes duration, through the virtual campus.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Classes teòriques	24	0.96	7, 9, 17, 24
Seminaris de casos pràctics	12	0.48	1, 6, 8, 12, 11, 13, 14, 18
Type: Supervised			

Tutories de consulta	30	1.2	1, 6, 18, 24
Type: Autonomous			
Estudi, desenvolupament d'esquemes, elaboració de treballs	58	2.32	6, 8, 18, 24

Assessment

EVALUATION:

A. CONTINUOUS ASSESSMENT

The competences of this subject are evaluated continuously throughout the course through two partial exams (Evidences 1 and 2) and a group work (Evidence 3).

Assessments 1 and 2 are individual and face-to-face and evidence 3 is "in groups" and virtual.

Evidence 1 is carried out during the first evaluation period and evidence 2 is carried out during the second evaluation period.

A.1. Evidences 1 and 2: The evaluation of the acquisition of theoretical knowledge and practical skills of the subject will be carried out through two midterm exams (EVIDENCE 1 and EVIDENCE 2), each of which will be composed of two parts:

1. THEORETICAL PART: Written exam of short / medium / long questions related to concepts exposed in the theoretical classes. It corresponds to 60% of the mark of the midterm exam.
2. PRACTICAL PART: Written test with different formats in relation to the theme developed in the different practical activities. It may consist of discussion of clinical cases, resolution of clinical problems, analysis of images related to pathology or normal development or any other activity related to the topic addressed in the practical sessions. It corresponds to 40% of the grade of the midterm exam.

Therefore, the mark of each midterm exam (Evidence 1 and Evidence 2) will be obtained from the following mathematical operation:

Midterm exam grade (Evidence 1 or 2) = Theoretical grade x 0.6 + Practical grade x 0.4

A.2. Evidence 3: Monographic work: Throughout the duration of the subject, a group work will be carried out based on the study and deepening of a topic related to the scope of the subject. This monographic work will be delivered, at most, on the date on which evidence 2 is carried out.

B. FINAL GRADE AND SUFFICIENCY OF THE SUBJECT:

The final gradeof the subject will correspond to the weighted average of the marks of the three evidences (EV1: First partial, EV2: Second partial and EV3: Monographic work) and will be obtained by applying the following mathematical formula:

Final Grade = EV1 x 0.4 + Note EV2 x 0.4 + Grade EV3 x 0.2

To obtain the sufficiency of the subject, a grade equal to or greater than 5 must be obtained with the indispensable requirement of having obtained a minimum of 4 points in each of the evidences.

C. RECOVERY ASSESSMENT:

Those who have not achieved the sufficiency of the subject through the continuous evaluation tests of the subject will be able to take again the EV1 and EV2 of the recovery exam.

To take the recovery assessment it is necessary to have been evaluated in a minimum of 2/3 of the final grade.

The recovery assessment will consist of two separate parts corresponding to EV1 and EV2, which will have the same characteristics as those previously carried out in the continuous assessment.

The marks obtained in the recovery assessment will replace those obtained in the continuous assessment provided if they are higher than those obtained previously.

The final grade and obtaining the sufficiency of the subject after the recovery assessment exam follow the same rules as previously explained for continuous assessment.

There is no pre-established method to reevaluate the monographic work (EV3). In the case of not having achieved the minimum grade to obtain the sufficiency grade of the subject, the way to achieve it will be assessed in each case.

D. NOT EVALUABLE:

The student who has submitted evidences of learning with a weight equal to or greater than 4 points (40%) will not be able to appear in acts as 'not evaluable'.

Students of 2nd or later enrollment are not expected to be evaluated by means of a single non-recoverable synthesis test

Link to the assessment guidelines of the faculty:
https://www.uab.cat/web/estudiar/graus/graus/avaluacions-1345722525858.html

E. SINGLE EVALUATION:

Single assessment

It will be held on the same day as the second partial of the subject with an added time for the oral presentations of the monographic work.

Assessment 1: Examination on theoretical knowledge (48% of the single assessment mark)

It consists of a written test of questions to be developed.

Assessment of practical skills test (32% of the single assessment mark)

It consists of a set of activities related to the practical part of the subject.

Assessment 3: Monographic assignment (20% of the single assessment mark)

Work with the same characteristics as the "monographic work" of the continuous assessment. In the case of single assessment, the work will be presented face-to-face to the teachers.

Reassessment of the single assessment

It will be carried out on the same day of the recovery of the continuous evaluation. It will be applied the same system than in the first instance of the single evaluation, with the exception of the monographic work for which the previous exhibition note will be kept.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Monographic work (Evidence 3)	20%	20	0.8	5, 2, 1, 3, 7, 6, 8, 12, 10, 9, 11, 13, 14, 15, 16, 22, 21, 19, 20, 18, 17, 24, 4, 25
Practical exam of evidence 1 and 2	32 %	3	0.12	1, 3, 7, 6, 8, 12, 11, 13, 14, 16, 22, 21, 19, 20, 18, 25

Theoretical exam (Evidence 1 and 2)	48%	3	0.12	1, 7, 6, 12, 9, 23, 22, 20, 17, 24

Bibliography

Bibliography

1. Developmental biology

1.1. Fundamental bibliography:

Sadler TW (2019) Embriología médica de Langman 14ª edición. Wolters Kluwer/Lippincott Williams & Wilkins, Buenos Aires. (Manual de referència)

1.2. Further reading:

Carlson BM (2020) Embriología Humana y Biología del Desarrollo. 6a edición. Ed. Elsevier, Madrid.

Embryology UNSW Australia https://embryology.med.unsw.edu.au/embryology/index.php/Main_Page

2. Neonatology

2.1. Fundamental bibliography:

José María Ceriani Cernadas, Gonzalo Mariani Ernesto, A. Lupo Alejandro Jenik (2018). Neonatología práctica. Editorial Médica Panamericana. (Manual de referència)

John P. Cloerty, Ann R Stark (2017). Manual de neonatología. Lippicott, Williams and Wilkins.

Morris S, Klein M. Pre-feeding skills: a comprehensive resource for mealtime development, 2nd ed. San Antonio, USA: Pro-ed; 2000.

American Speech-Language-Hearing Association (ASHA) Roles and Responsibilities of Speech-Language Pathologists in the Neonatal Intensive Care Unit. Guidelines 2005. Disponible en: https://egrove.olemiss.edu/cgi/viewcontent.cgi?article=1528&context=hon_thesis.

Rodríguez S, De Ribera CG, García MPA. El recién nacido prematuro. Protocolos Diagnóstico Terapéuticos de la Asociación Española de Pediatría AEP. Neonatología. 2008;2(8):68-77

2.2. Further reading:

Garcia-Ezquerra, R. - Paniagua J - Giménez, P - Murciego, P - De Almeida, M. Abordaje a la disfagia pediátrico-neonatal. 1ª edición junio 2022. Editorial Elsevier ES

Rosa Sampallo Pedroza (2015). Neonatos y lactantes menores: guía orofacial y deglutoria. Evaluación, diagnóstico e internción terapéutica. Universidad Nacional de Colombia.

Software

In order to follow the subject is enough with the Microsoft Office Packege.