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Disability levels in cerebral vascular accident (CVA) survivors: the ICF model in action

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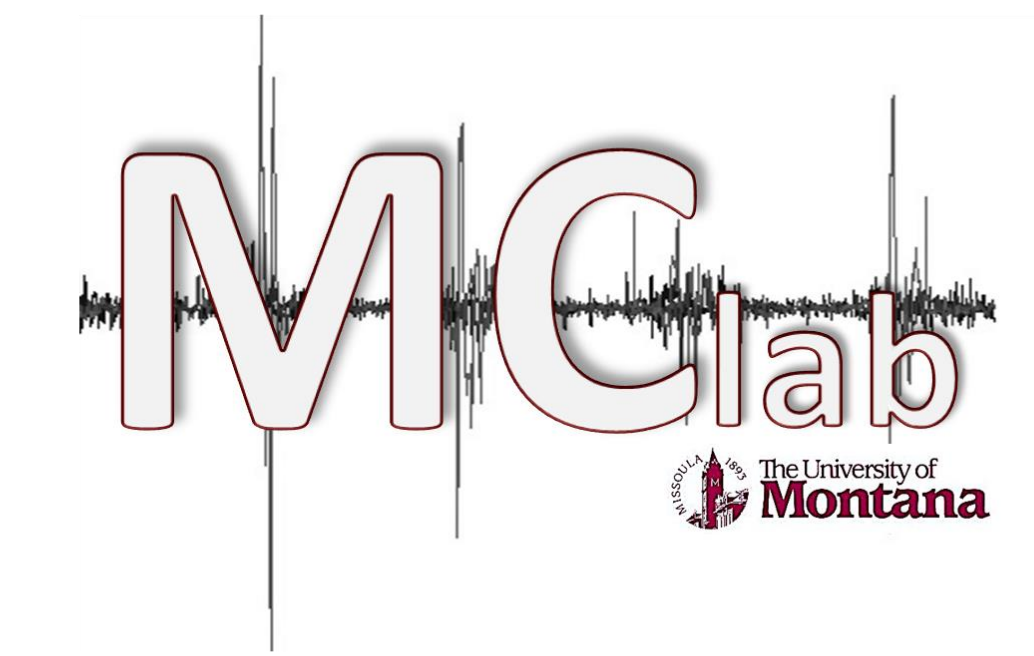
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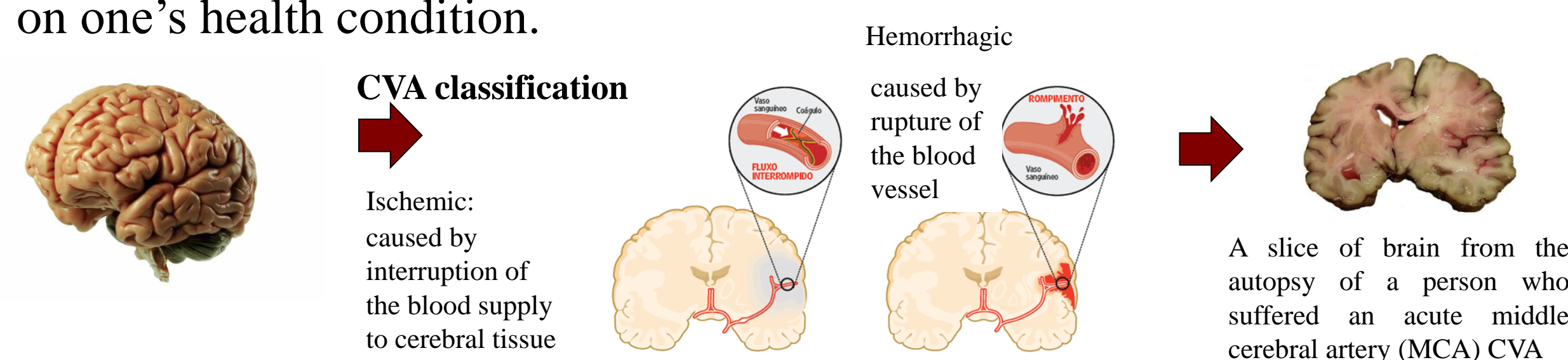
Introduction

• CVA is defined as a loss of brain function due to disturbance in the blood supply to the brain. This can occur following ischemia (lack of blood flow) caused by blockage (thrombosis, arterial embolism), or a hemorrhage of central nervous system intracranial blood-vessels. As a result, the affected area of the brain cannot function normally, which might result in an inability to move one or more limbs on one side of the body, failure to understand or formulate speech, or an vision impairment of one side of the visual field.

• Due to the neurologic deficits caused by CVAs several daily functions become compromised decreasing the quality of life of its survivors. Quality of life may be partially recovered in cases where effective physical rehabilitation procedures are applied.

• It is important to recognize and gauge the level of disability suffered by CVA survivors.

• International Classification of Functioning, Disability and Health (**ICF**) is a classification of the complex interaction between the health condition of the individual and the contextual factors of the environment.

• Therefore, the current ICF creates a more integrative understanding of health forming a comprehensive profile of an individual instead of focusing on one's health condition.

CVA classification

Ischemic: caused by interruption of the blood supply to cerebral tissue

Hemorrhagic caused by rupture of the blood vessel

A slice of brain from the autopsy of a person who suffered an acute middle cerebral artery (MCA) CVA

Purpose

•. This study aimed to use the International Classification of Functioning, Disability and Health (ICF tool) to establish an initial data base of disability levels for a group of cerebrovascular accident (CVA) survivors within the area of Campina Grande (Brazil).

Methods

STUDY TYPE: Transverse
PARTICIPANTS:
• 38 CVA survivors (28 men) mean age of 77.9 ± 44.3 yrs.
• All participants were found to suffer from CVA for no more than 5 years.
• All received treatment at the same Basic Unit of Health (Brazilian local clinics supported by the local government) at the city of Campina Grande (PB, Brazil)
• ICF tool was used and the follow domains were investigated

  • Body Functions
  • Activities and Participation
  • Environmental Factors

STATISCAL ANALYSIS:
Data were analyzed using the Graph Pad Prism program 4.0, with values expressed in frequency, percentage, mean and standard deviation.

ETHICAL CONSIDERATIONS: The study was approved by the Ethics Committee of State University of Paraiba under Number 08189.0.133.000-11.

Results

Table 1 - Socio-demographic characterization of registered users affected by CVA in UBSFs of Campina Grande - PB

Age (years)	(mean ± sdEV)
	70,9 ± 13,5
Gender	**%**
Male	**55,3**
Female	44,3
Literate	
Yes	**65,8**
No	31,6
Unknown	2,6
Marital Status	
Married or Living together	31,6
Separated	10,5
Widower and single	**57,9**
Professional occupation	
Works	5,3
Not Working	**94,7**
Income	
Less than 1 minimum wage	5,3
1 to 2 minimum wages	**65,8**
3 or more minimum wages	28,9

Table 2 - Clinical Profile of registered users affected by CVA in UBSFs of Campina Grande - PB

Clinical Data	Value(%)
Type of CVA	
Ischemic	**65,8**
Hemorrhagic	5,2
Unknow	29,0
Affected side	
Righ	42,2
Left	**52,6**
Both	5,2
Time of the last CVA (months)	
0 - 11	26,3
12 - 23	15,8
24 - 35	**28,9**
36 - 47	15,8
48 - 60	13,2

Results

Table 3 – Disability levels of registrated users affected by CVA in UBSFs of Campina Grande - PB

ICF category title	Rates (%)				
	0	1	2	3	4
Memory functions	23,7	18,4	21,1	15,7	21,1
Emotional functions	23,7	18,4	28,9	23,8	2,6
Vestibular functions	13,2	15,8	21,1	**42,1**	**7,8**
Muscle power functions	28,9	15,9	34,2	10,5	10,5
Carrying out daily routine	28,9	10,5	21,1	28,9	7,9
Hand and arm use	**7,9**	18,4	15,8	**42,1**	**10,5**
Walking	10,4	13,2	21,1	**47,4**	**7,9**
Moving around	**7,8**	21,1	21,1	**47,4**	**2,6**
Using transportation	10,5	18,4	34,2	13,2	0,0
Caring for body parts	50,0	5,3	5,3	23,7	15,8
Dressing	36,8	13,2	23,7	21,1	5,3
Community life	18,4	15,8	5,3	**50,0**	**10,5**
Recreation and leisure	13,2	15,8	7,9	**42,1**	**18,4**

Conclusion and Implications

• CVA survivors studied demonstrated moderately impaired functional capacity.

• Mobility, vestibular, recreation and leisure functions were the most affected categories.

• Group studied has a larger risk for the development of the following comorbidities:

  ➢ Psychological depression due to their diminished levels of recreation and leisure functions.

  ➢ Falls and fall-related injuries due to their impaired body balance caused by vestibular dysfunctions and abnormal mobility patterns.

• Results the necessity of health care professionals to:

  ➢ Promote better programs of recreational interactions of CVA survivors from this area

  ➢ Emphasize balance training programs to decrease the risk of fall and fall-related injuries.

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