

ACADEMY OF SPINAL CORD INJURY PROFESSIONALS

A literature synthesis of nutrition knowledge measurement items used in persons living with SCI/D



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Introduction

- Research measuring nutrition knowledge among persons with spinal cord injuries and disorders (SCI/D) is sparse.
- Objective:** to identify & describe nutrition knowledge measurement tools/items used among adults with SCI/D.

Methods

- Study design:** Literature narrative synthesis.
- Articles identified by searching:**
 - PubMed and Cumulative Index to Nursing & Allied Health Literature (CINAHL) with terms related to SCI/D, nutrition knowledge, and surveys for articles authored between 1992 & 2022
 - Reference lists of relevant articles
- Articles included if:**
 - English language
 - They assessed nutrition knowledge among people with SCI/D
- Included articles reviewed for:**
 - Validation of measurement tools
 - Specific subpopulations targeted
 - Question content
 - Relevance and specificity to SCI/D.

Results

- Identified 48 articles in initial search.
- Excluded articles that were duplicated across sources (n=5), did not assess nutrition knowledge (n=33), or did not include participants with SCI/D (n=5)
- 5 articles** measuring nutrition knowledge in people with SCI/D included in the synthesis.

Results

Table: Characteristics of included articles and items.

Article	Measure characteristics									Sample characteristics					
	Name	Validated	Item topics							Size	Athletes only	SCI/D characteristics			
			Sports nutrition	Supplementation	Weight management	Alcohol	Nutrition literacy	Sources & effects of nutrients	Other healthy eating practices			SCI/D	Duration (acute vs. chronic)	Level (% with paraplegia)	
1	GNKQ	x			x				x	x		95		chronic	100
2	NQ	x	x	x	x		x	x	x			72	x	NR	NR
3	GNKQ-R	x		x	x	x	x	x	x			50		acute	48
4	KNE				x		x	x	x	x		15		acute	40
5	NSKQ	x	x	x	x	x	x	x				80	x	NR	68
Total (%)	-	4 (80)	2 (40)	3 (60)	5 (100)	2 (40)	4 (80)	5 (100)	4 (80)	1 (20)		312	2 (40)	chronic: 1 (20) acute: 2 (40) NR: 2 (40)	

SCI/D = Spinal cord injury and disorder, x = Yes, NR = Not reported, GNKQ = General Nutrition Knowledge Questionnaire, NQ = Nutritional Questionnaire, GNKQ-R = General Nutrition Knowledge Questionnaire-Revised, KNE = Knowledge and Nutrition Evaluation, NSKQ = Nutrition for Sport Knowledge Questionnaire

- 2 articles' studies (2 & 3) only included athletes.
- Only the study of article #1 included non-athletes with chronic SCI.
- No measures were validated for use in SCI/D populations.
- All measures included items about:
 - calories or energy
 - weight management
 - sources and effects of micro- and macronutrients, especially fiber and different types of fats.
- All measures except the GNKQ assessed nutrition literacy.
- Only the GNKQ-R and NSKQ asked about alcohol.
- Only the KNE included items about SCI/D-specific nutrition needs (n=2).
- There were no validated items measuring SCI/D-specific nutrition knowledge.

SCI-specific nutrition items from the KNE:

"You need more food in order to fuel your body after a spinal cord injury (true/false)"

"You need to increase fiber and water intake after spinal cord injury (true/false)."

Conclusions

- Studies that assess nutrition knowledge among persons with SCI/D are rare and use:
 - items with limited relevance to SCI/D populations
 - samples with limited representativeness of SCI/D populations
- A validated measure of knowledge of SCI-specific nutrition needs is needed to identify nutrition knowledge gaps, guide clinical care, and inform intervention development.

Disclaimer

The views expressed in this manuscript are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government.

Acknowledgements

This work was funded by the Department of Defense Proposal # SC210189, Award # W81XWH-22-1-0544, "Development and Validation of a Nutrition Knowledge Questionnaire for Individuals with Spinal Cord Injuries and Disorders" [PI: LaVela, SL].

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