

Abstract: Development of Prodromal Symptom-Screening Scale [PS-SS] – Preliminary validity and reliability

Background

Every 40 seconds a person dies of cardiovascular disease. Individuals do not recognize the warning signs—prodromal symptoms—of an imminent myocardial ischemic event. The Prodromal Symptoms-Screening Scale [PS-SS] is a 9-item measure designed to evaluate PS in individuals with coronary artery disease.

Aim

This article reports on four studies (systematic review, focus group study, content validity testing and factor analysis) that contributed to the development and psychometric examination of the PS-SS.

Results

PS experienced included: unusual fatigue, sleep disturbance, chest pain, anxiety, gastro-intestinal symptoms and shortness of breath. The CVI derived was 0.85. The PS-SS presented a two-factor structure pertaining to Specific Prodromal Symptoms and Non-Specific Prodromal Symptoms. Internal consistency reliability was 0.61.

Conclusions

The PS-SS reflects current prodromal literature, clinical practice and ACS patients' experiences of PS. Further item generation, clarity of symptom description and psychometric evaluation needs to occur prior to use in clinical practice.

O'Keefe-McCarthy, S., & Guo, S.-L. (2016). Development of the Prodromal Symptoms-Screening Scale (PS-SS): Preliminary Validity and Reliability. *Canadian Journal of Cardiovascular Nursing*, 26(2), 10–18. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/27382667>



Table 1 The relationship among items on the PS-SS (n=120)

	Aches or pains	Fatigue	Sleep disturbance	Headaches	Dizziness	Shortness of breath	Chest pain	Anxiety
Fatigue	0.13							
Sleep disturbance	0.12	0.26**						
Headaches	0.17	0.25**	0.16					
Dizziness	0.11	0.19*	-0.04	0.12				
Shortness of breath	0.20**	0.19*	0.20**	0.15	0.23**			
Chest pain	0.24**	0.10	-0.04	0.13	0.17	0.14		
Anxiety	0.05	0.16	0.30**	0.07	0.11	0.13	0.05	
Other PS	0.15	0.21**	-0.07	0.12	0.31***	0.17	0.37***	0.04

Note: * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Table 2 Inter-relationships between items and subscales (n=120)

Item #	Subscale	Item	Item to total Scale correlation	Cronbach's Alpha if item deleted
# 1	Factor 1	Unusual aches or pain	0.30	0.59
# 5	Factor 1	Dizziness	0.30	0.58
# 7	Factor 1	Chest pain	0.30	0.59
# 9	Factor 1	Other symptom(s)	0.33	0.58
# 2	Factor 2	Unusual Fatigue	0.38	0.56
# 3	Factor 2	Sleep disturbance	0.21	0.61
# 4	Factor 2	Headaches	0.30	0.59
# 6	Factor 2	Shortness of breath	0.36	0.57
# 8	Factor 2	Anxiety	0.22	0.61

Total Scale Cronbach's Alpha= 0.61. Factor 1= Specific Prodromal Symptoms Subscale
Factor 2= Non-Specific Prodromal Symptoms Subscale



Table 3 Factor Loading Structure Matrix for the PS-SS

Subscale	Item	Factor loading	
		Factor 1	Factor 2
Specific	1. Unusual aches or pain	0.46	0.30
Specific	5. Dizziness	0.62	0.18
Specific	7. Chest pain	0.63	0.04
Specific	9. Other prodromal symptom(s)	0.77	0.05
Non-Specific	2. Unusual fatigue	0.36	0.61
Non-Specific	3. Sleep disturbance	-0.11	0.75
Non-Specific	4. Headaches	0.32	0.40
Non-Specific	6. Shortness of Breath	0.41	0.50
Non-Specific	8. Anxiety	0.04	0.60
<i>Pearson's Correlation Confidence was 0.44 ($p < 0.001$) between Factor 1 and Factor 2</i>			