

Exploring physical and mental determinants of drop-out among nursing students in Rotterdam, the Netherlands: baseline characteristics of the first SPRiNG cohort

INTRODUCTION

Drop-out from the nursing profession is increasing, while at the same time the healthcare job market is rapidly expanding. Research on retaining nurses from the start of their career is scarce. The overall aim of the SPRiNG project is to develop a targeted program addressing the resilience of new graduate nurses for their mental and physical workload.

This poster focuses on the baseline characteristics of the first SPRiNG cohort and provides insight into the prevalence of first signs of health problems and productivity loss, as possible determinants for drop-out of nursing students.

METHODS

- ▶ Prospective cohort study
- ▶ Three cohorts (2016, 2017, 2018) of third year nursing students (in a 4-year educational program) will be monitored until one year after graduation
- ▶ 272 nursing students were invited to participate in the 2016 cohort
- ▶ Validated questionnaires with special emphasis on mental and physical health, capacity and resilience were taken in the second semester
- ▶ The self-reported questionnaire constituted scales like: Utrecht Work Engagement Scale (UWES), Job Content Questionnaire (JCQ), Distress Screener, Standardised Nordic Questionnaire (SNQ) and SQUASH
- ▶ 27 potential determinants evaluated - amongst others - skill discretion, decision authority, distress, psychological job demands, work engagement, physical workload, musculoskeletal complaints, sickness absence, presenteeism, and physical activity

- ▶ E.J.M. Bakker, RN, MSc^{1,2}
- ▶ J.H.A.M. Kox, RN, MSc^{1,3}
- ▶ Prof. A.J. van der Beek, PhD²
- ▶ C.R.L. Boot, PhD²
- ▶ Prof. S.M.A. Bierma-Zeinstra, PhD^{3,4}
- ▶ C.M. Dekker-van Doorn RN, PhD1, MSc(Ed)¹
- ▶ H.S. Miedema, PhD¹
- ▶ P.D.M. Roelofs, PhD¹
- ▶ J. Runhaar, PhD³

1 Rotterdam University of Applied Sciences, Research Centre Innovations in Care, Rotterdam, the Netherlands

2 VU University Medical Center, Amsterdam Public Health research institute, Department of Public and Occupational Health, Amsterdam, the Netherlands

3 Erasmus University Medical Center, Department of General Practice, Rotterdam, the Netherlands

4 Erasmus University Medical Center, Department of Orthopaedics, Rotterdam, the Netherlands



RESULTS

Of the 272 nursing students, 225 agreed to participate in the study. Baseline characteristics are described in table 1.

DISCUSSION

- ▶ Nursing students experience moderate to high distress and need time to recover from internships. Their experienced physical health complaints seem to add up and seem to increase from the first internship until the present internship
- ▶ This baseline measurement of the SPRiNG cohort is the first step in developing a validated predictive model that identifies first signals for drop-out from nursing education and nursing profession
- ▶ Intended further steps are exploring yet unknown reasons for drop-out through qualitative research, a systematic review of effective interventions and testing of the most feasible interventions in a pilot RCT
- ▶ These steps will lead to a toolbox with targeted education/interventions to prevent this drop-out

CONTACT

Website: rotterdamuas.com/spring
Email project leader, Pepijn Roelofs: pepijn.roelofs@hr.nl

Table 1 Baseline results SPRiNG cohort 1 N=225

Demographics	Estimate	Range
Gender, Female (%)	88.0	
Age (years)	22.9 ± 4.4	19-49
BMI (kg/m ²)	23.3 ± 3.7	17-41
Full-time student (%)	65.3	
Dutch as first language (%)	86.2	
Work characteristics (JCQ)		
Decision Latitude (Skill discretion + Decision authority) (m ± sd)	37.3 ± 5.2	21-49
Psychological demands (m ± sd)	33.8 ± 5.8	16-48
Physical Exertion (m ± sd)	8.2 ± 2.1	3-12
Supervisor support (m ± sd)	11.9 ± 2.5	4-16
Co-worker support (m ± sd)	12.4 ± 2.0	6-16
Work engagement (UWES)		
Vigor (average score 2.41 – 3.33) (m ± sd)*	3.0 ± 2.0	0-6
Dedication (average score 3.00 – 4.60) (m ± sd)*	3.9 ± 1.4	0-6
Absorption (high score 3.34 – 4.50) (m ± sd)*	3.4 ± 1.3	0-6
Total (average score 2.67 – 3.77) (m ± sd)*	3.4 ± 1.2	0-6
Aggression (COPSQ)		
Experience verbal or physical aggression (%)	72.4	
Psychosocial demands		
Need for recovery (max score = 100)	58.6	
Mental Health		
Distress (range 0-6, >3 is moderate distress)	2.9 ± 2.1	0-6
Screened positive on distress (%)	39.1	
Experienced physical complaints (previous internship/work period) (SNQ)		
Arm, neck and shoulder complaints (%)	33.8	
Upper and lower back pain (%)	41.8	
Lower extremities (%)	26.2	
Experienced physical complaints (current internship/work period) (SNQ)		
Arm, neck and shoulder complaints (%)	46.2	
Upper and lower back pain (%)	56.9	
Lower extremities (%)	34.7	
Expectations regarding nursing education and profession (low-high) (self-reported)		
Expectation to continue working in health care after graduation (m ± sd)	7.9 ± 2.3	1-10
Expectation to finish nursing school with a certificate (m ± sd)	9.2 ± 1.1	1-10

* reference values