Background

Quality improvement methodologies are commonly used in healthcare. Some studies show an improvement in patient outcomes, while others show a modest or even no effect [1, 2]. These inconsistent results may be attributed to contextual differences, particularly at the microsystem level [3, 4]. Understanding this problem requires shifting from studies investigating whether methodologies work to studies focused on understanding why and where they work most effectively [2]. The insights about the impact of context factors could help accelerate quality improvement initiatives [5].

Aim(s)

This study aims to develop and psychometrically validate an instrument for assessing contextual factors and skills related to quality improvement initiatives among nursing teams in acute care settings.

Methods

Rattray and Jones's framework was used to develop a questionnaire to asses contextual factors and skills regarding quality improvement practice [6]. A literature review was performed to select relevant content in the field of quality improvement at microsystem level in acute care. Six subject experts conducted a preliminary evaluation of the items. The face validity was assessed using cognitive pretesting [7]. The instrument was piloted by 124 Flemish nurses. The validity and reliability was tested by exploratory factor analysis and Cronbach's alpha.

Results

Based on the literature review 60 items were selected from two related frameworks, namely the 'Model for Understanding Success In Quality revised [8] & Quality by Design [9], and relevant studies in the field of PDSA based quality improvement. The expert panel resulted in a selection of 45 items with a scale-level content validity index (S-CVI) of >.90. The remaining items were grouped in 4 dimensions namely motivation & trigger, improvement skills, context in the team and context in the organization. The items were rephrased and restructured based on the pretesting. The four dimensions were divided in 10 factors (or subscales) based on theoretical rationale. The overall questionnaire showed good validity and reliability. The predefined factors explained >60% of variance in the 4 dimensions (except improvement skills 59%). The Cronbach's alpha for the subscales were all >70% except internal & external motivation.

Discussion

In this study an instrument was developed to assess contextual factors and skills based with 4 dimensions and 10 subscales. Within the dimensions the initial hypothesis of the theoretical distribution was consistent. Only the dimension 'improvement skills' just not met the threshold of 60% of total variance. The dimension 'motivation and trigger' has a Cronbach's alpha <.70. A Cronbach's may suggest that items in these dimension and the subscales are poorly grouped [6] but kept in the instrument because of evidence based relevance. The study have two important limitations. First the sample size of pilot study is rather small for conducting a factor analysis. Second, without existing validated instrument, it was not possible to determine the convergent validity [6].

Implications and future perspectives

Gaining insight into the contextual factors and skills that influence the effectiveness of quality improvement initiatives can facilitate their implementation. This instrument can be utilized in the future to assess these factors, while further research can examine the specific impact of each factor.

References

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