

DEVELOPMENT OF WORKAROUND ASSESSMENT SCALE (WAS)

Vikas Choudhary

PhD Scholar, Jamia Hamdard University, New Delhi.

ABSTRACT

A Workaround assessment scale is developed to assess the workarounds for registered nurses of HAHC Hospital, Jamia Hamdard University. The study was conducted in four phases (Preliminary preparation, validation of first draft and subsequent drafts, pilot study, final try-out). Content validity of the scale was established through modified Delphi technique. After creation of Panel of experts there were three rounds of Delphi completed for content validation of workaround assessment scale.

Keywords: Workaround assessment scale, workarounds, validity, reliability.

INTRODUCTION

Workarounds in the hospital or health care setting always affects the functionality of health care system, either for short period of time or up to extended period of time without changing its overall high level of architectural goals & identification.¹

Unfortunately, there are unintended, negative consequences of workarounds. As study conducted by Halbesleben et.al. found that health care professionals typically work around the immediate issue without engaging in additional steps to prevent recurrence. This pattern of behaviour, called first-order problem solving, seems successful because patient care continues in the short term.²

Second-order problem solving requires nurse managers and health care workers to change their view of the behaviours that they consider beneficial.³ Workarounds are dichotomous tropes which acts both ways; fostering the patient care or potentially compromising it. However, such improvised behaviours may be extremely necessary in some contexts to render the quality care.⁴

Following steps were taken to develop the initial draft.

1. Review of literature

The initial version of workaround assessment scale was developed through an ample review of literature carried out from books, journals, and internet. Literature was searched which represents the workarounds or circumvents in hospital settings.

2. Assessment of current practices

Current practices were assessed in the different units/wards of HAHC Hospital New Delhi. There was no practice of assessment of Workarounds, no standardized tool or scale used for assessment of workarounds at HAHC Hospital.

3. Focus Group Discussion

Use of standardized tool or scale was not in the policy of Hospital, so there was no tools or scales available for assessment of workarounds. Many of staff were actually not aware about the workarounds they never thought had a thought about circumvent or workarounds. So they felt the need of the scale or tool, which can assess the workarounds.

4. Generation of item pool

Based on the related barriers such as mal-functional or non-functional equipment, shortage in supply, workload due to shortage of staff, technological failure etc., items were generated & pooled together.

5. Preliminary draft of Workaround assessment scale

The initial draft of workaround assessment scale for the registered nurses was prepared with the support of experts in the relevant field.

Scoring keys were developed to use the scale and for each item scoring keys were in the in the following manner: 3=Always, 2 =Sometime, 1 =Never)

The level of workarounds is scored under three categories; Infrequent Workarounds (Score 40-67), at times (occasional) workarounds (Score 67-94), frequent workarounds (Score >94).

Results

The Cronbach's alpha coefficient was applied to find out internal consistency reliability of present workaround assessment scale (total 40 items), which came out to be 0.74, indicating the internal consistency of the scale.

Test-retest reliability was 0.82 which means the workaround assessment scale is highly stable.

Analysis of face validity & content validity was ascertained by the expert's opinion. The workaround assessment scale is having good content validity which is statically well evident by 0.90 I-CVI (item-content validity index).

Principal component factor analysis method was used to statically determine the construct validity of workaround assessment scale.

For inter-item correlation Pearson's Correlation showed all (40) item had correlation >.20, hence all items included in factor analysis. The Kmo value was 0.671 and p-value was 0.000, which made the data suitable for proceeding factor analysis.

In the Principal component factor analysis, total 10 components were generated with 40 items, accounted for 50% of variance. Data was analyzed (40 items in the original scale) & after factor analysis, all the items were retained in the workaround assessment scale. The scoring criterion was also developed after the final draft of the scale.

The level of workarounds was scored under three categories; Infrequent Workarounds (Score 40-67), at times (occasional) workarounds (Score 67-94), frequent workarounds (Score >94).

Hence, a reliable and valid workaround assessment scale was developed to assess the workarounds for registered nurses.

DISCUSSION

Reliability of workarounds assessment scale was calculated by Cronbach's alpha (0.74) Cronbach's alpha coefficient was remain same or decreased when each item was deleted one by one. Corrected item total correlation was less than 0.2 on deleting items. Stability of the scale was calculated by test-retest which was 0.82. These findings are in accordance to Lindgren M. et al (2002) developed RAPS scale, coefficient alpha was 0.80, corrected item-item correlation was above 0.30, correlation coefficient was 0.83 and percentage of agreement among nurses was 70%.^{5,6}

Findings of other studies offer credibility to those of this thesis that demonstrate that nurses used workarounds: to save time; to administer medications in a BCMA system within 'allowable' time frames; to deliver care that accommodated patients' needs; to act in the interests of patient safety; to manage risk; and

in the interests of collegial relationships. The findings of this study align with those of Jennings et al. (2011) and Novak et al. (2013) who concluded that medication administration is inseparably linked with nurses' other work, and that nurses used articulation work or adaptations (including workarounds) to manage their workload and competing demands.^{7,8}

REFERENCES

1. Nilsson J, Johansson E, Egmar AC, Florin J, Leksell J, Lepp M, Lindholm C, Nordström G, Theander K, Wilde-Larsson B, Carlsson M. Development and validation of a new tool measuring nurses self-reported professional competence—The nurse professional competence (NPC) Scale. *Nurse Education Today*. 2014 Apr 1;34(4):574-80.
2. Azad, B., and N. King (2008) "Enacting Computer Workaround Practices Within a Medication Dispensing System", *European Journal of Information Systems*, (17), pp. 264–278.
3. Espin S, Lingard L, Baker GR, Regehr G: Persistence of unsafe practice in everyday work: an exploration of organizational and psychological factors constraining safety in the operating room. *Qual Saf Health Care* 2006, 15(3):165–170.
4. Halbesleben, J.R.B., D.S. Wakefield, and B.J. Wakefield (2008) "Workarounds in Health Care Settings: Literature Review and Research Agenda", *Health Care Management Review*, (33), pp. 2–12.
5. Beitz, Janice, Mary Gerlach, Pat Ginsburg, Marianne Ho, Eileen McCann, Vickie Schafer, Vera Scott, Bobbie Stallings, and Gwen Turnbull. "Content validation of a standardized algorithm for ostomy care." *Ostomy/wound management* 56, no. 10 (2010): 22.
6. Halbesleben JR, Wakefield DS, Wakefield BJ: Work-arounds in health care settings: literature review and research agenda. *Health Care Manage Rev* 2008, 33(1):2–12.
7. Pollock, N. (2005) "When Is a Work-Around? Conflict and Negotiation in Computer Systems Development", *Science, Technology, and Human Values*, (30), pp. 1–19.
8. Lynn MR. Determination and quantification of content validity. *Nurses Res*. 1986; 35: 382–385.

