Evaluation of the Morse Fall Scale cut-off scores in residential care homes for elderly (RCHE) in Hong Kong

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Introduction

- Kowloon Central cluster is now employing the Morse Fall Scale (MFS) for all hospital inpatients as a fall risk screening tool and also all new intake cases in KHCGAT since October 2012

- The MFS has been validated for use in acute and long term care areas overseas with high sensitivity and specificity (0.78, 0.83) to identify admitting patients at risk of fall.

- However, it has not been validated for use in residential care homes our locality where the settings are vastly different from western institutions.

- This study aims to determine the best cut-off score for fall risk in our setting so that appropriate and early fall prevention interventions can be put in place.

Method

- This is a retrospective cohort study with 6 months follow up in a convenient sample of consecutively admitted new cases to RCHE under KH CGAS from November 2012 to July 2013.
- The MFS of each newly admitted residents are scored by a nurse and observation made within the 6 month period after admission to record fall episodes.
  - Fall episodes are recorded retrospectively from the records of the RCHE.
  - Contact with the public health care system including emergency attendances and hospital admissions are obtained from Clinical Management System (CMS)
- Validation of sensitivity, specificity and inter-rater variability were undertaken for use in RCHE setting in Hong Kong.
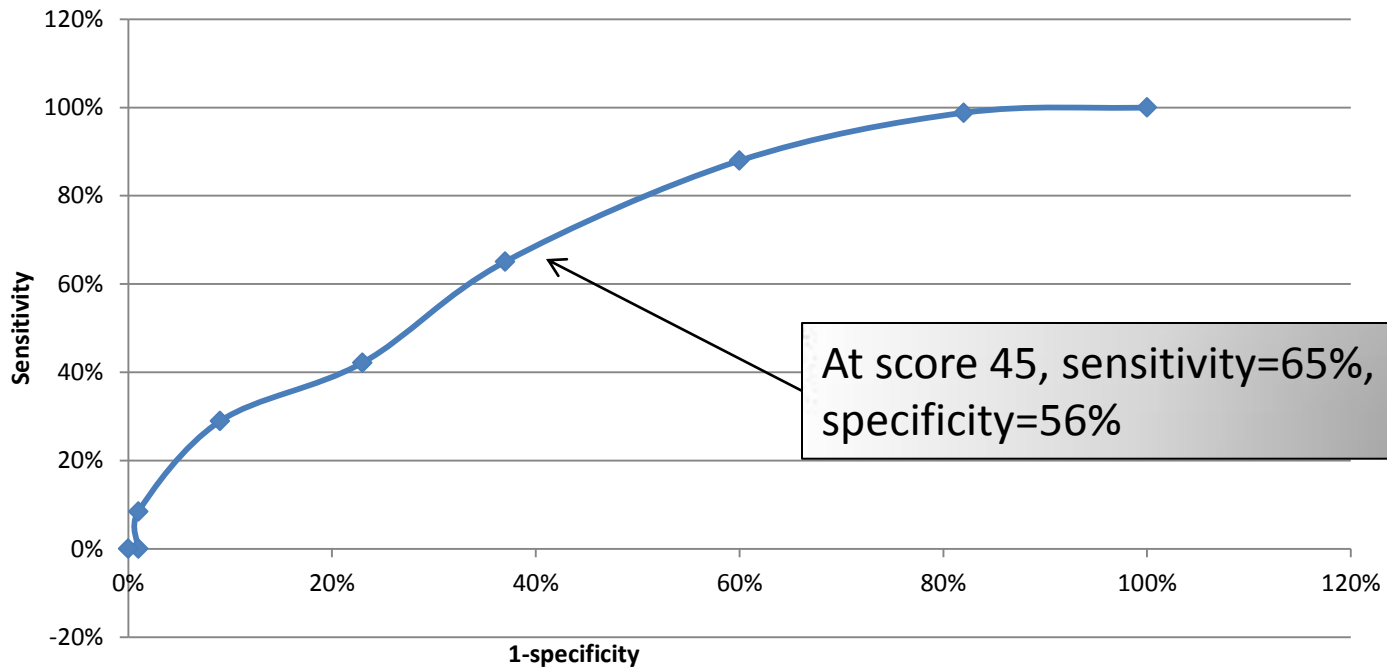
MFS – cut off range ≥40-75

MFS	No. of patient	Total falls	Sensitivity	Specificity
0	4	0	100%	0%
10	2	0	100%	2%
15	27	1	100%	3%
25	10	3	99%	14%
30	38	6	95%	17%
35	10	4	88%	32%
40	64	15	83%	34%
45	22	5	65%	56%
50	30	14	59%	64%
55	51	11	42%	71%
65	30	11	29%	88%
70	5	6	16%	97%
75	7	5	8%	96%
80	5	2	2%	97%
90	1	0	0%	99%
95	1	0	0%	99%
100	1	0	0%	100%
	308	83		

Morse Falls Scale Validation
AUC=0.588 p=0.042

Figure 2. ROC curve

At score 45, sensitivity=65%, specificity=56%

Limitations

- item "Intravenous Therapy/Heparin Lock" which is not applicable to our local RCHE setting
- number of patients in the high risk group (>40-75) is probably too excessive for any prevention program to handle.

Conclusions

- Morse fall scale in RCHE setting in Hong Kong was validated in this study – high risk range is 40-75 with acceptable sensitivity and specificity at the usual cut off point of 45.

- Consideration should be given for validity, applicability and scientific evidence before selecting screening tools to be used on a large scale basis in the community.