

Use of Emoticon for screening of depression: A Pilot study

L C Tan^{1,2}, H J Toh¹, L K Sim³, J A Low^{1,2}

¹Geriatric@North, Alexandra Health Systems Programme Office, Khoo Teck Puat Hospital, Singapore
²Department Of Geriatric Medicine and Palliative Care, Khoo Teck Puat Hospital, Singapore

Introduction

Depression is common in the elderly. The severity of depression can be measured using various scales and none has been found to be superior to another. The problems with current scales are that they can be tedious to administer and are language-specific¹. It is particularly difficult to administer these scales in patients with a different language or hearing difficulties.

Emoticons have been used widely for the rating of pain^{2,3}. It has, however, not been used for assessment of other symptoms or in the assessment of mood.

While most scales consist of different domains of depression in accordance to the domains in the DSM (IV) criteria, there is no consensus that the measurement of different domains is useful in assessing the severity of mood. A visual scale such as the emoticon scale may therefore be useful to assess the severity of depression. Even if it fails to relate to all the domains of measurement, it is plausible that it will correlate well with the mood of the patients.

The author also postulates that emoticons may be associated with the patient's perceived quality of life.

Aim and Importance

The study hopes to find a simple visual assessment tool that can be easily used by people of all languages or for people with language difficulties. The scale should be easy to use and quick to administer.

With the development of the scale, physicians will have a practical tool which they can use on a daily basis for their patients⁴.

Methods

This is a correlation study in elderly patients in the geriatric outpatient clinic in an acute hospital from April 2013 to August 2015. The geriatric depression scale 7 (GDS-7) was administered by trained nurses as part of their routine assessment. A separate trained research assistant administered the emoticon scale.

Inclusion Criteria

Age 65 and above
 Verbally communicative
 English or Chinese speaking

Exclusion Criteria

Cognitively Impaired (MMSE <23)
 Psychiatric illness other than depression

Patients who agreed to participate in the study rated their mood using an emoticon scale, which ranges from 1 (most happy face) to 7 (most sad face). Analysis of the data was done using correlation models and using proofs of negative valence. The sensitivity and specificity of each cutoff point of the emoticon scale were calculated, and values were plotted as a receiver operator characteristic (ROC) curve.

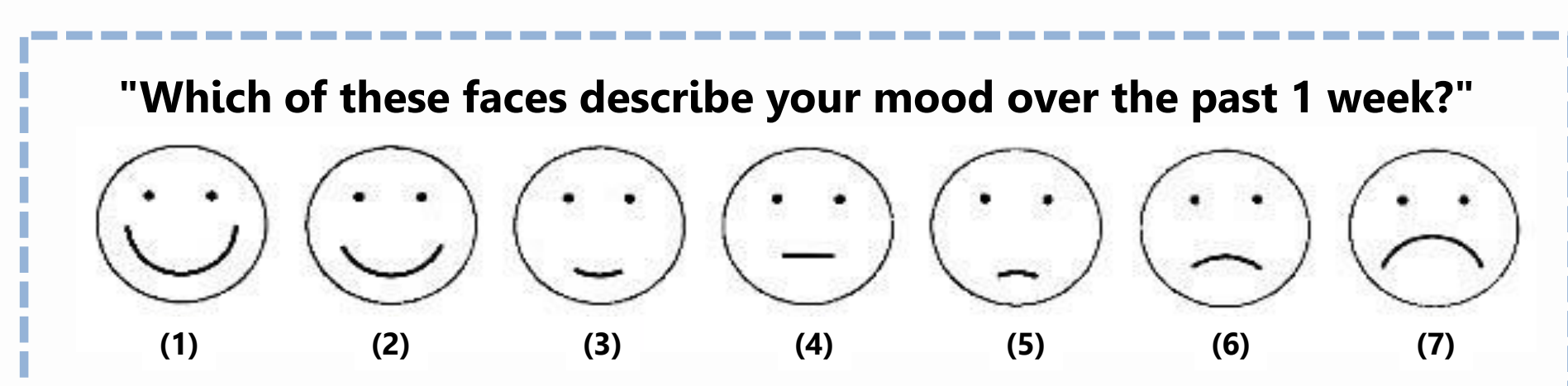


Figure 1. Emoticon Scale

Results and Discussion

Of the 77 patients who completed the assessment, the mean age was 79.3±7.0 years and 60% were female.

Table 1. Characteristics of patients

Characteristics	Participants, N=77 n (%)
Age (range)	74 (65 – 93)
Gender	
Female	46 (60)
Ethnicity	
Married	55 (71)
Widowed	21 (27)
Divorced	1 (1)
Employed	5 (6)
Education	
No formal education	12 (16)
Primary	21 (27)
Secondary	28 (36)
Tertiary	15 (19)

Results and Discussion (cont'd)

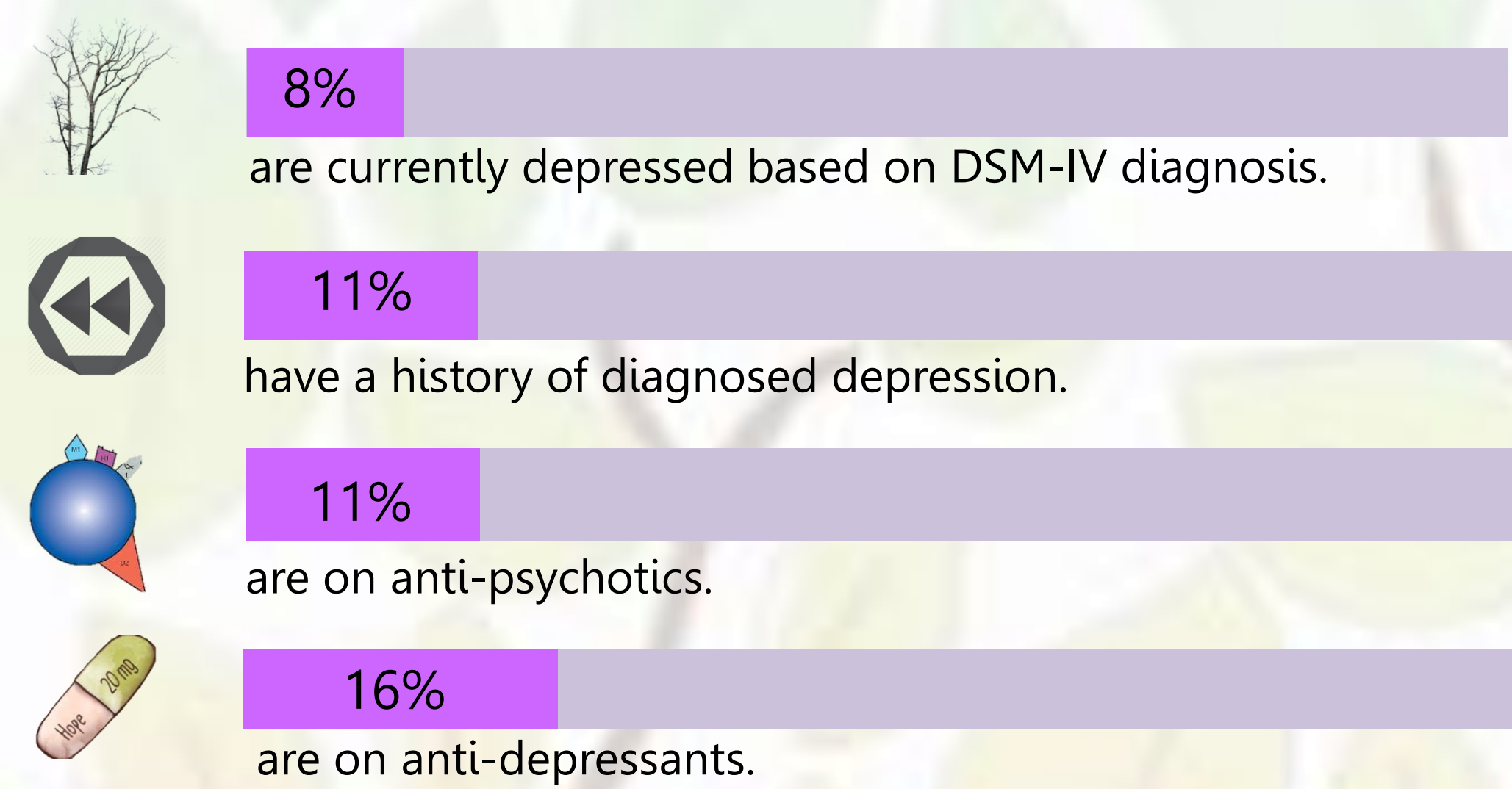


Figure 2. Participants' depression-related medical information

Majority of the participants (75.7%) scored 1 to 3 (happy faces) on the emoticon scale and only 7.8% scored 5 to 7 (sad faces). Similarly, most (80.1%) scored 0 to 2 on the GDS-7 and minority (10.4%) scored 4 to 6.

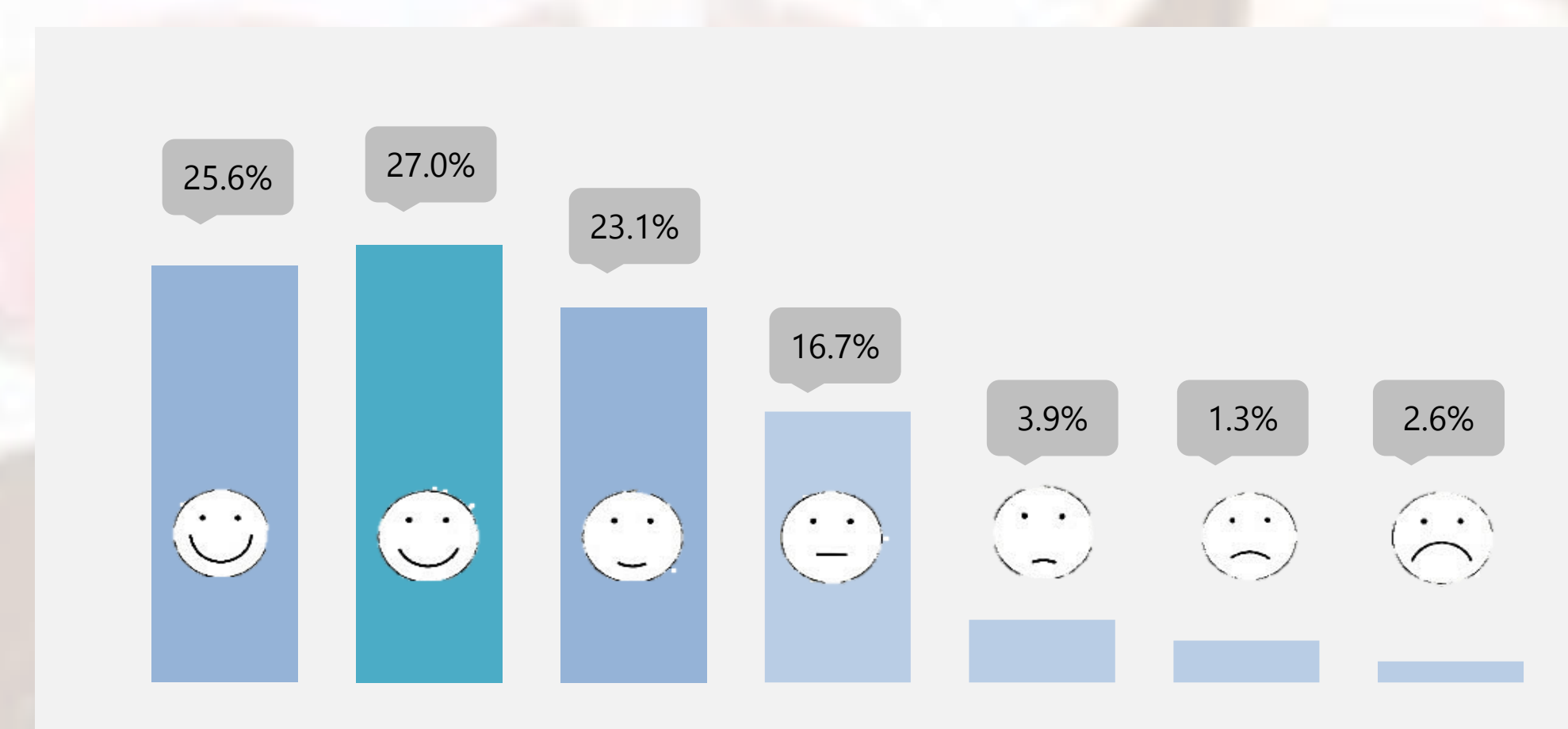


Figure 2. Participants' scoring on Emoticon Scale

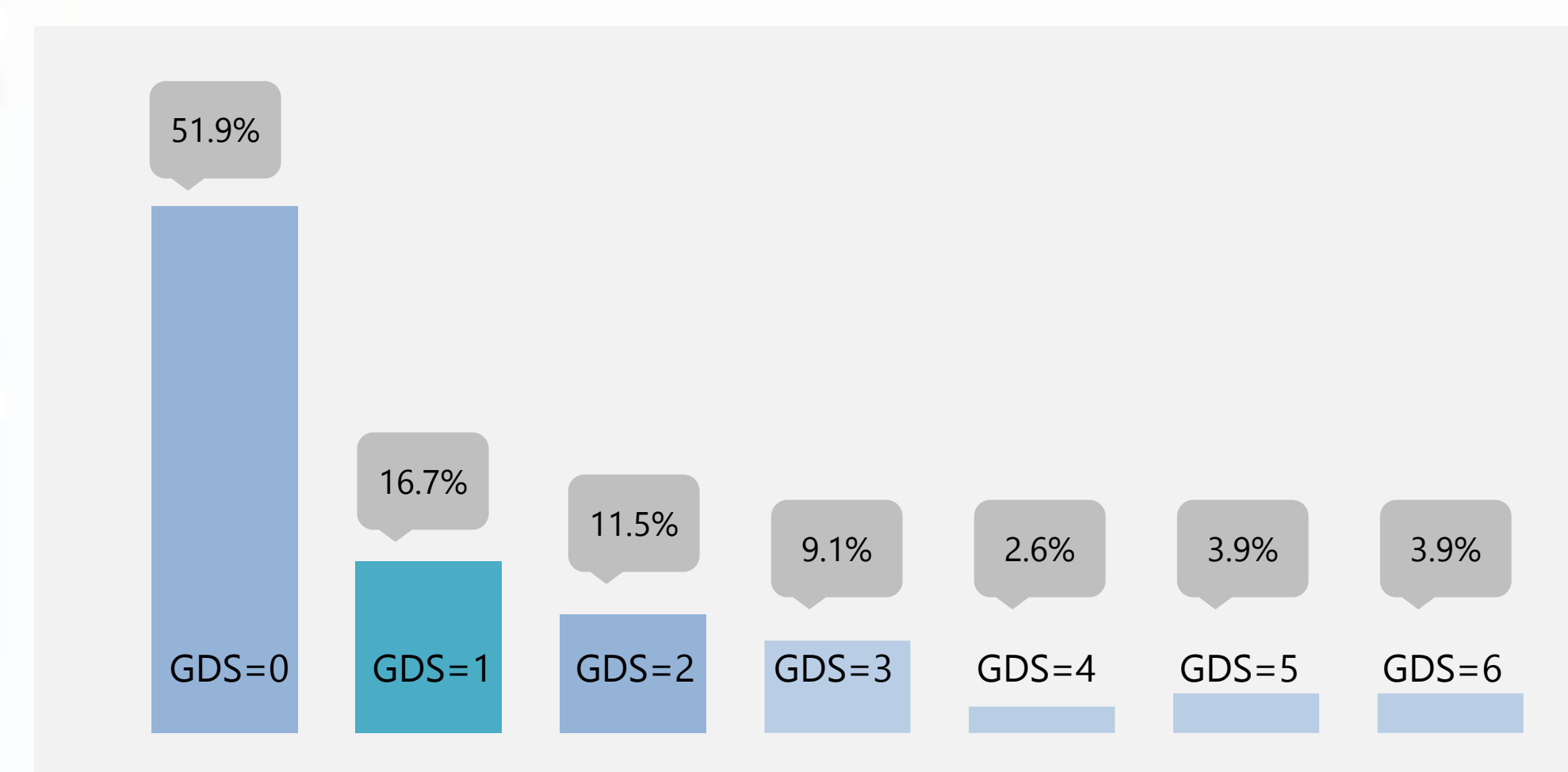


Figure 3. Participants' scoring on GDS-7

The estimated area under the ROC curve was 0.35 (SE = 0.16). The best cutoff point for screening depression was ≥2, with 50.0% sensitivity and 18.0% specificity. When a cutoff score of 4 was used, the emoticon scale did not correctly identify any of the cases.

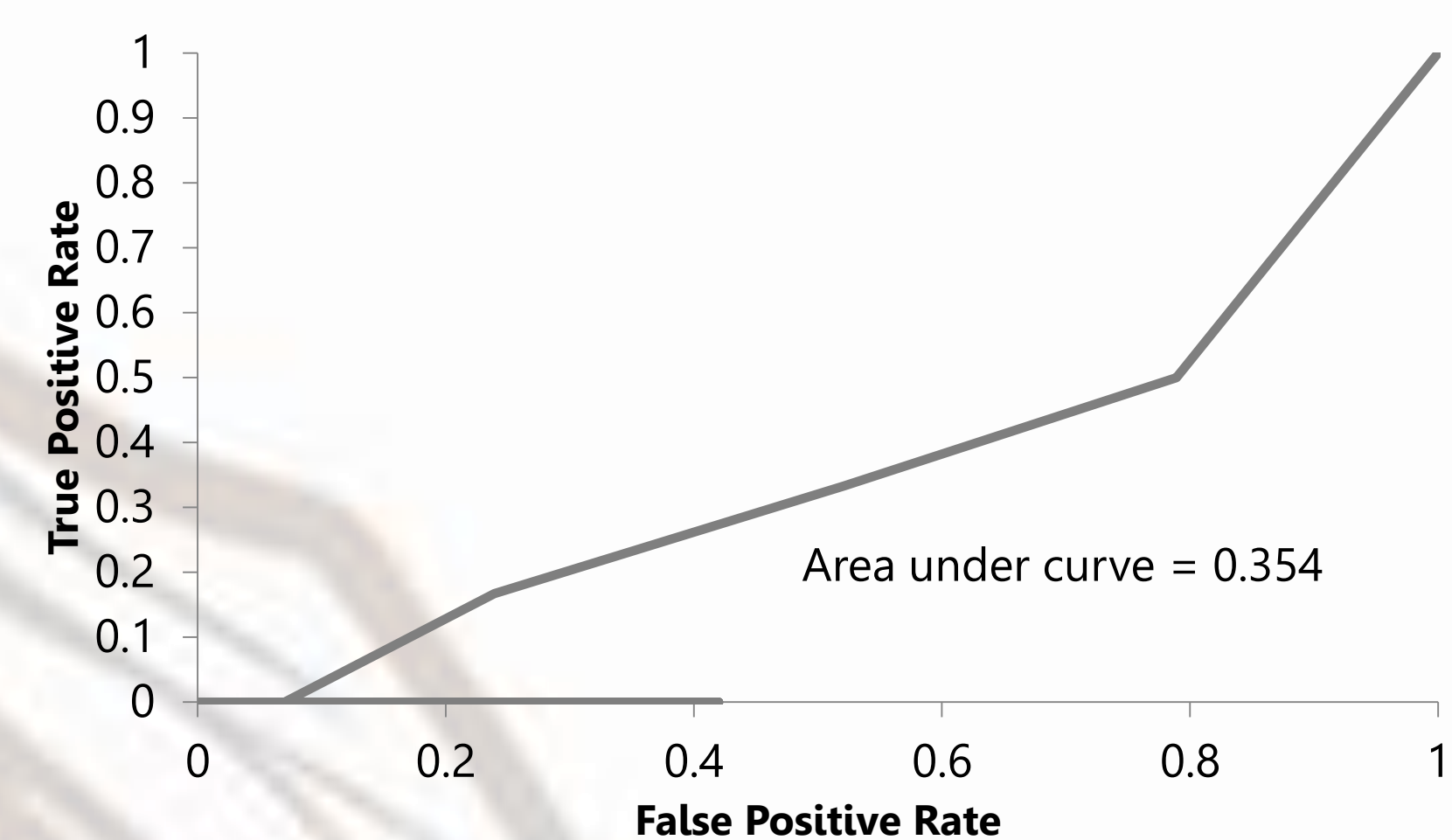


Figure 4. ROC curve

Conclusion

Findings from this pilot study demonstrated that the emoticon scale was feasible and easy to administer. The result suggested that sensitivity and specificity was low but this may be confounded by low number of patients with depression. A follow up study to assess the correlation of the scale with a larger sample size is important.

References

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