

## The Use of “WISER” Smartphone Application in Aiding a Chemical Disaster Management: Sungai Kim Kim Experience

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### ABSTRACT

**INTRODUCTION:** In an ideal situation of managing a chemical disaster that threatens human health, the offending toxin would be rapidly identified on-scene utilizing detector apparatus to provide responders the insight to give specific and appropriate treatment besides hazard protection information. Yet, the on-scene determination of said chemical is usually not readily available in an actual situation. In a recent incident of a highly publicized sizable chemical mixture spill volatilization that imperil human health, a smartphone based toxic syndromes identification tool was applied to aid in rapid chemical identification and assist judgement in providing hazard protection. **METHODS:** Wireless Information System for Emergency Responders app (WISER) was used for toxidrome cause identification, determining responders’ protection and protective distance arbitration. **RESULTS:** The WISER app was found to be useful in swiftly determining personal protective equipment types to be used by medical responder once the offending chemical was identified and in deciding initial protective distance. However, the app floundered in deciding subsequent protective distance and flopped in the aspect of toxic syndromes cause recognition. **DISCUSSION:** These deficiencies were possibly due to that the app was not designed for prolonged dynamic chemical spill and it is more suitable in identifying single chemical culprit rather than a chemical cocktail.

**KEYWORDS:** WISER, chemical disaster, toxidrome

## Total Waiting Time at Clinics in A Malaysian Armed Forces Hospital and Its Associated Factors

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### ABSTRACT

**INTRODUCTION:** Total waiting time in outpatient clinics are regarded as indicators of service quality. There is a strong association between total waiting time at an outpatient clinic and patient satisfaction. The factors studied are social demography of the patients, clinic factors and human resource factors. **OBJECTIVE:** To quantify the total waiting time for patients to complete services at the clinics in Hospital Angkatan Tentera Malaysia Tuanku Mizan and determine the associating and predicting factors. **METHODS:** A cross-sectional descriptive and analytical study will be carried out among patients attending outpatient clinics in April 2019. **RESULTS:** Among 410 respondents, they spent a median time of 82 minutes with the longest waiting time 138 minutes. 25.9% of the respondents found the waiting time unacceptable and 55.9% of the patients were military families. The service point with the longest wait time was at the clinic counter with 87 minutes (mean (SD) = 38 (17)). There was an association between type of clinic, time of day, day of time and perceived waiting time with total waiting time. The respondents who came on non-operation theater days experience 6.382 times higher total waiting time and those who came at AM time of the day had 5.314 times lower total waiting time. **DISCUSSION:** Identifying the factors can help improve the quality of healthcare in Armed Forces Hospital.

**KEYWORDS:** Total waiting time, waiting time, service points, outpatient, clinics,