

ABSTRAK

Wilayah pesisir Aceh, termasuk Kota Lhokseumawe, merupakan daerah yang rentan terhadap bencana tsunami, sebagaimana tercermin dari peristiwa Tsunami Aceh tahun 2004. Anak usia sekolah dasar merupakan kelompok rentan dalam situasi bencana, sehingga peningkatan kesiapsiagaan sejak dini menjadi penting. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian edukasi dan penerapan *game-based learning* terhadap tingkat pengetahuan kesiapsiagaan bencana tsunami pada siswa SD Negeri 20 Kota Lhokseumawe. Penelitian ini menggunakan desain *quasi-eksperimental* dengan rancangan *one group pretest–posttest*. Sampel penelitian berjumlah 114 siswa kelas IV, V, dan VI. Data dikumpulkan menggunakan kuesioner kesiapsiagaan bencana tsunami yang mencakup empat parameter, yaitu pengetahuan dan sikap, rencana tanggap darurat, sistem peringatan dini, serta mobilisasi sumber daya. Hasil penelitian menunjukkan bahwa sebelum intervensi tingkat kesiapsiagaan responden bervariasi antar parameter, dengan median skor *pre-test* berada pada rentang 33,33%–66,67%. Setelah diberikan edukasi kebencanaan menggunakan media PPT dan diperkuat dengan *game-based learning* berupa *matching game*, median skor seluruh parameter meningkat menjadi 100,00%. *Uji Wilcoxon Signed Ranks Test* menunjukkan nilai $p < 0,001$ pada seluruh parameter. Kesimpulan penelitian ini menunjukkan bahwa edukasi dan *game-based learning* berpengaruh signifikan terhadap peningkatan kesiapsiagaan bencana tsunami pada siswa sekolah dasar.

Kata kunci : Kesiapsiagaan, Tsunami, Edukasi, *Game-Based Learning*, Siswa, Sekolah Dasar

ABSTRACT

Coastal Coastal areas of Aceh, including Lhokseumawe City, are highly vulnerable to tsunami disasters, as reflected in the 2004 Aceh Tsunami. Elementary school-aged children are a vulnerable group in disaster situations; therefore, improving disaster preparedness from an early age is essential. This study aimed to examine the effect of educational interventions and the application of game-based learning on tsunami disaster preparedness knowledge among students of SD Negeri 20 Lhokseumawe City. This study employed a quasi-experimental design with a one-group pretest–posttest approach. The sample consisted of 114 students from grades IV, V, and VI. Data were collected using a tsunami disaster preparedness questionnaire covering four parameters: knowledge and attitudes, emergency response planning, early warning systems, and resource mobilization. The results showed that prior to the intervention, respondents' preparedness levels varied across parameters, with pre-test median scores ranging from 33.33% to 66.67%. After receiving disaster education delivered through PowerPoint media and reinforced with game-based learning using a matching game, the median scores of all parameters increased to 100.00%. The Wilcoxon Signed Ranks Test indicated a p-value of < 0.001 for all parameters. In conclusion, educational interventions combined with game-based learning have a significant effect on improving tsunami disaster preparedness among elementary school students.

Keywords: Preparedness, Tsunami, Education, Game-Based Learning, Students Elementary School