ABSTRAK

Pendahuluan : Kawasan banjir rob yang tergenang air dan kotor menjadi habitat ideal bagi reservoir leptospirosis (tikus). Masalah kesehatan pada kawasan ini perlu pendekatan tepat dengan mengembangkan model sosioepidemiologi terdiri pendekatan psikososial (*perceived stress, self efficacy*) dan epidemiologi (perilaku hidup bersih dan sehat). Tingkat stres yang tinggi pada masyarakat rob dapat melemahkan sistem imun dan meningkatkan kerentanan terhadap infeksi leptospirosis.

Tujuan : Mengembangkan model integrasi sosioepidemiologi leptospirosis di kawasan banjir rob, mengukur efektivitas penerapan model pada variabel *perceived stress*, *self efficacy*, PHBS serta mengestimasi kejadian leptospirosis melalui pemodelan sistem dinamik.

Metode : Metode yang digunakan adalah kombinasi (*mixed methods*) dengan rancangan *Research and Development* (R&D), untuk intervensi dilakukan dengan *quasi-experiment with pre dan post control*. Populasi adalah masyarakat yang tinggal di kawasan banjir rob (orang dengan risiko leptospirosis) di Desa Bedono, Purwosari dan Sriwulan. Sampel diambil secara *purposive sampling* sesuai kriteria inklusi dan eksklusi sebanyak 90 orang (intervensi dan kontrol). Kelompok intervensi lanjutan diseleksi dengan kriteria tingkat stres sedang dan berat sebanyak 70 orang (intervensi dan kontrol).Pemodelan digunakan persamaan sistem dinamik.

Hasil : Model integrasi sosioepidemiologi telah dikembangkan dan kemudian diterapkan, menunjukkan delta skor pada *perceived stress* dengan rata-rata skor sebesar -7,20±8,33(intervensi), -6,60±9,00(kontrol) dengan p=0,773, delta skor *self-efficacy* sebesar 5,69±8,17(intervensi),-1,89±4,64(kontrol) dengan p=0,000 .Penelitian ini terdapat delta skor PHBS sebesar 9,37±4,59(intervensi), 0,51±1,63(kontrol) dengan nilai p=0,000. Penambahan variabel dilakukan dalam pemodelan sistem dinamik mengestimasi penurunan karena intervensi sebesar 11,96%.

Kesimpulan : Intervensi yang dilakukan menurunkan tingkat *perceived stress* pada kedua kelompok namun belum signifikan dalam perbedaannya, meningkatkan *self-efficacy* secara signifikan serta meningkatkan perilaku hidup bersih dan sehat (PHBS) pada masyarakat di kawasan banjir rob dengan signifikan. Pemodelan sistem dinamik digunakan untuk mengestimasi kejadian leptospirosis mendatang.

Kata kunci : Leptospirosis, Kawasan banjir rob, Integrasi sosioepidemiologi, *Perceived Stress, Self efficacy*, PHBS, Sistem Dinamik

ABSTRACT

Introduction: *Tidal flood areas, characterized by stagnant and polluted water, serve as ideal habitats for leptospirosis reservoirs (rats). Health issues in these areas require appropriate approaches through the development of a socio-epidemiological model, which integrates psychosocial aspects (perceived stress, self-efficacy) and epidemiological factors (clean and healthy living behavior). High levels of stress among residents in tidal flood areas can weaken the immune system and increase vulnerability to leptospirosis infection.*

Objective: *To develop an integrated socio-epidemiological model for Leptospirosis in tidal flood areas, analyze the effectiveness of interventions on perceived stress, self-efficacy, and clean and healthy living behavior (PHBS) score, and estimate leptospirosis incidence through system dynamics modeling.*

Methods: *This study is a mixed-method approach with a Research and Development (R&D) design. The intervention used an quasi-experimental method with pre- and post-control groups. The population consisted of residents living in tidal flood areas (individuals at risk of leptospirosis) in the villages of Bedono, Purwosari, and Sriwulan. A total of 90 participants were selected using purposive sampling based on inclusion and exclusion criteria (intervention and control groups). A follow-up intervention group was selected based on moderate to severe stress levels, comprising 70 participants (intervention and control groups). The model is developed using dynamic system equations.*

Results: *A socio-epidemiological integration model has been developed and implemented, showing a mean delta score for perceived stress of -7.20 ± 8.33 (intervention) and -6.60 ± 9.00 (control) with $p = 0.773$; a delta score for self-efficacy of 5.69 ± 8.17 (intervention) and -1.89 ± 4.64 (control) with $p = 0.000$; and a delta score for clean and healthy living behavior (PHBS) of 9.37 ± 4.59 (intervention) and 0.51 ± 1.63 (control) with $p = 0.000$. Additional variables were incorporated into the dynamic system modeling to estimate a reduction due to the intervention by 11.96%.*

Conclusion: *The intervention reduced perceived stress levels in both groups, although the difference was not statistically significant. It significantly increased self-efficacy and improved clean and healthy living behavior (PHBS) among communities living in tidal flood areas. A dynamic system modeling approach was used to estimate future leptospirosis incidence.*

Keywords: *Leptospirosis, tidal flood area, socio-epidemiological integration, perceived stress, self-efficacy, PHBS, system dynamics*