KERAGAMAN JENIS LALAT (Cyclorrhapha : Diptera) DAN MIKROBA PATOGEN YANG DIBAWANYA DI BEBERAPA RUMAH SAKIT UMUM DI DAERAH ISTIMEWA YOGYAKARTA

INTISARI

Latar belakang: Pengamatan mengenai populasi lalat sinantropik sering dihubungkan dengan transmisi bakteri enteropatogen serta beberapa parasit usus.
Tujuan : Untuk mengidentifikasi keragaman dan kepadatan rata-rata beberapa spesies lalat sinantropik yang penting bagi kesehatan, serta menentukan peranan lalat sebagai pembawa parasit dan bakteri enteropatogen bakteri di beberapa rumah sakit umum di Daerah Istimewa Yogyakarta.
Metode : Jenis penelitian deskriptif observasional. Koleksi lalat dilakukan pada bulan September sampai November 2015 di Rumah Sakit Tipe B di Yogyakarta dengan menggunakan jaring serangga, kepadatan rata-rata lalat diukur dengan flygrill. Keragaman lalat ditentukan dengan Indeks Shannon-Wiener. Identifikasi lalat berdasarkan karakter morfologi menggunakan kunci identifikasi *Manual Neartic Diptera Vol 2*. Lalat dimatikan dengan pendinginan (-20^{o}C), dicuci dengan garam fisiologis steril dan suspensinya digunakan untuk identifikasi parasit dan bakteri. Identifikasi parasit menggunakan Deterjen Extran 2%, dan identifikasi bakteri menggunakan tes katalase, tes koagulase, dan Microbact (Oxoid) Kit.
Hasil : Ditemukan beberapa jenis lalat dalam famili *Muscidae, Calliphoridae* dan *Sarcophagidae* yang berhasil dikoleksi dari TPS Non Medis dan TPS Medis. Indeks keragaman Shannon-Wiener pada TPS Non Medis H'<1, termasuk keragaman rendah, dan ekosistem tidak stabil, sedangkan pada TPS Medis 1≤H'≤3, termasuk keragaman sedang, dan ekosistem cukup seimbang. Kepadatan rata-rata lalat pada TPS non medis dan TPS medis masing-masing termasuk kategori sedang dan rendah. Bakteri yang dapat ditemukan pada tubuh eksternal lalat adalah 19 jenis bakteri, 6 jenis diantaranya adalah bakteri oportunistik (*Burkholderia pseudomallei*, *Klebsiella pneumoniae, Acinetobacter baumanii, Enterobacter aerogenes, Staphylococcus* koagulase negatif, dan *Streptococcus* alfa) dan 13 jenis diantaranya adalah bakteri dengan patogen rendah, tapi parasit usus tidak ditemukan sama sekali.
Kesimpulan : Keragaman dan kepadatan rata-rata lalat sinantropik di TPS non medis dan TPS medis masing-masing termasuk kategori sedang dan rendah. Hal ini membuktikan bahwa bagian eksternal tubuh lalat sinantropik yang tertangkap di rumah sakit umum tipe B di Daerah Istimewa Yogyakarta merupakan habitat yang baik bagi perkembangbiakan bakteri oportunistik yang dapat menyebabkan penyakit. Oleh karena itu, diperlukan usaha untuk meningkatkan kebersihan di rumah sakit umum untuk mencegah penyakit epidemi yang berhubungan dengan kondisi sanitasi yang buruk.

Kata Kunci : keragaman, lalat sinantropik, Calliphoridae, Sarcophagidae, Muscidae, bakteri oportunistik

THE DIVERSITY OF FLIES (Diptera: Cyclorrhapha) AND MICROBIAL PATHOGENS THAT COLLECTED IN SOME PUBLIC HOSPITALS IN PROVINCE YOGYAKARTA

ABSTRACT

Background: Synanthropic fly population surveys are often conducted with respect to enteropathogenic bacteria transmission as well as some gastrointestinal parasites.
Objective: To identify the diversity and relative abundance of medically important species of synanthropic flies and their role as carrier of parasites and enteropathogenic bacteria at some public hospitals in Yogyakarta Province.
Methods: Flies collection was performed during September 2015 to November 2015 in five type B public hospitals in Yogyakarta by using the common fly trap (sweep net). The relative abundance of flies were estimated by using flygrill. The diversity of synanthropic flies were calculated using Shannon-Weiner index. The flies were identified into genera and species using their characteristic features based on identification key in *Manual Nearctic Diptera Volume 2*. These flies were demobilized by freezing (-20^{o}C), washed with sterilized distilled water, and the suspension homogenised before processing for parasites and pathogenic bacteria on their external body parts. Identification of intestinal parasites uses Detergent Extran 2% and identification of bacteria uses catalase test, coagulase test, and Microbact (Oxoid) methods.
Results: In this study a total number of 6 species of medically important flies in three families including Calliphoridae (*Chrysomyia megacephala*, *Lucilia sp*) Sarcophagidae (*Sarcophaga sp*) and Muscidae (*Musca domestica* and *Muscina* sp), were collected in non medical garbage, but only three species found in medical garbage. Shannon-Wiener Index (H') of the flies in non medical and medical garbages were ≤ 1 and ≤ 3 respectively. The relative mean abundance of flies in non medical and medical garbages were moderate and low respectively. It was isolated 6 species of opportunistic bacteria (*Burkholderia pseudomallei*, *Klebsiella pneumoniae*, *Acinetobacter baumanii*, *Enterobacter aerogenes*, Coagulase negative *Staphylococcus*, and *Streptococcus* alfa) and 12 species of low pathogenic bacteria on external body of the flies, but no found parasites at all.
Conclusions: The diversity and relative mean abundance of synanthropic flies in non-medical and medical garbages were moderate and low respectively. This also reveals the fact that synanthropic-caught flies, in type B public hospitals in Yogyakarta harbour opportunistic bacteria on their bodies, which can cause diseases. Hence, there is need for improved sanitation in the hospital communities, to prevent epidemics associated with poor sanitary conditions.

Keywords: diversity, synanthropic flies, Calliphoridae, Sarcophagidae, Muscidae, opportunistic bacteria