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Efek ekstrak etil asetat daun lamun [enhalus acoroides l.f. royle] terhadap analisis semen, morfologi sel leydig, dan stres oksidatif pada mencit jantan tua = Effect of ethyl acetate extract of lamun leaves enhalus acoroides l f royle on semen analysis leydig cell morphology and oxidative stress in old male mice / Novita Rina Antarsih

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Abstrak

ABSTRAK
LATAR BELAKANG: Laki-laki dengan penuaan pada umumnya mengalami penurunan kualitas hidup dan infertilitas, penyebabnya berkaitan dengan degenerasi sel Leydig akibat akumulasi stres oksidatif sehingga terjadi penurunan kadar testosteron. Daun Enhalus acoroides dilaporkan mengandung antioksidan yang dapat menangkal radikal bebas dan fitosterol yang dapat diubah menjadi testosteron. Penelitian ini dilakukan untuk mengetahui efek ekstrak etil asetat daun lamun [Enhalus acoroides (L.f.) Royle] terhadap analisis semen, morfologi sel Leydig, dan stres oksidatif mencit jantan tua

BAHAN DAN CARA KERJA: Sampel berjumlah 32 ekor mencit jantan galur DDY yang diberikan ekstrak daun Enhalus acoroides selama 14 hari. Mencit dibagi dalam 8 kelompok perlakuan masing masing terdiri dari 4 kali ulangan yang terdiri dari DK1 = dewasa kontrol 1 (mencit dewasa tanpa perlakuan); DK2=dewasa kontrol 2 (mencit dewasa minyak zaitun); DP1=dewasa perlakuan 1 (mencit dewasa ekstrak 25 mg/KgBB); DP2=dewasa perlakuan 2 (mencit dewasa ekstrak 50 mg/KgBB); TK1=tua kontrol 1 (mencit tua tanpa perlakuan); TK2=tua kontrol 2 (mencit tua minyak zaitun); TP1=tua perlakuan 1 (mencit tua ekstrak 25 mg/KgBB); TP2=tua perlakuan 2 (mencit tua ekstrak 50 mg/KgBB).

HASIL: Peningkatan motilitas dan viabilitas spermatozoa mencit tua pada dosis 50 mg/KgBB, peningkatan morfologi spermatozoa normal pada mencit tua dengan dosis 25mg/KgBB dan penurunan konsentrasi spermatozoa mencit tua pada dosis 25 mg/KgBB. Adanya peningkatan sel Leydig tua pada dosis 25 mg/KgBB

KESIMPULAN: Pemberian ekstrak daun Enhalus acoroides meningkatkan kualitas spermatozoa. Namun tidak ada perbedaan dalam penundaan degenerasi sel Leydig dewasa serta tidak ada perbedaan pada tingkat stres oksidatif
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ABSTRACT
Background: The men aging process occurs generally due to decreased quality of life and infertility, the cause associated with Leydig cell degeneration due to

accumulation of oxidative stress resulting in a decrease in testosterone levels. At this time the administration of synthetic antioxidants is limited because of the risk of cancer, on the other hand administration of synthetic testosterone cause the cessation of endogenous testosterone production and long-term risk. Lamun leaves Enhalus acoroides reported to contain antioxidants which can counteract free radicals and phytosterols that can be converted into testosterone. Therefore, this study was conducted to determine effect of ethyl acetate extract of lamun leaves Enhalus acoroides on semen analysis, Leydig cell morphology, and oxidative stress in old male mice

Methods: The sample amounted to 32 mice (mus Musculus) strain DDY male given extract of the leaves of seagrass for 14 days. Mice were divided into eight treatment groups each consisting of four replications. Four groups are composed of adult mice which consist of DK1=adult control 1, DK2= adult control 2 (adult mice with olive oil), DP1= adult treatment 1 (extract 25 mg/KgBW), DP2=adult treatment 2 (extract 50 mg/KgBW). 4 groups male older mice consist of TK1 = old control 1, TK2= old control 2 (old mice with olive oil), TP1= old treatment 1 (extract 25 mg/KgBW), TP2= old treatment 2 (extract 50 mg/KgBW).

Results: An increased motility and viability of sperm at doses of 50 mg/KgBW, increased morphology of sperm normally at doses of 25 mg/KgBW, and decreased the concentration of sperm at doses of 25 mg/KgBW. An increased in aged Leydig cells at doses 25 mg/KgBW

Conclusion: The extract of lamun leaves can qualitatively improve sperm, however not significant in delays degeneration of adult Leydig cells and not significant decreased levels of oxidative stress in old male mice