

# **PENGARUH PENAMBAHAN RESIDU JUS JERUK TERHADAP SIFAT FISIKOKIMIA DAN ORGANOLEPTIK KONNYAKU SEBAGAI ALTERNATIF KUDAPAN PENDERITA OBESITAS**

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## **Abstrak**

Indonesia, berdasarkan data Riset Kesehatan Dasar (Riskesdas) 2018, angka obesitas di Indonesia mencapai 21,8 persen. Angka tersebut terus beranjak naik sejak Riskesdas 2007 yaitu sebesar 10,5 persen dan 14,8 persen pada Riskesdas 2013 (Kemenkes RI, 2018). Bahkan, tingkat obesitas di Indonesia menduduki peringkat ke-163 di dunia (World Health Organization/WHO, 2020). Sementara itu, Dinas Kesehatan DKI Jakarta tahun 2019 menyebutkan dalam penelitiannya terhadap 1,3 juta responden warga Jakarta bahwa 35 persen (3,64 juta jiwa) warga Jakarta mengalami obesitas. Metode penelitian yang digunakan yaitu Rancangan Acak Lengkap (RAL) satu faktor dengan dua kali pengulangan. Faktor tersebut adalah formula konnyaku yang dibedakan menjadi 3 formula dengan masing-masing tingkat presentase tepung konnyaku dengan residu jus jeruk adalah F1 (tepung konnyaku : 2,5% dan residu jus jeruk 10,23%); F2 (tepung konnyaku : 3,41% dan residu jus jeruk 9,37%); serta F3 (tepung konnyaku : 4,26% dan residu jus jeruk 8,52%). Analisis data yang dipakai untuk analisis kimia dan fisik adalah analisis ragam (ANOVA) dan analisis lanjutan *Duncans Multiple Range Test* (DMRT) sedangkan untuk uji organoleptik menggunakan uji Kruskal Wallis. Penentuan formula terpilih dilakukan atas beberapa parameter yang dilakukan berdasarkan metode perbandingan eksponensial (MPE). Formula terpilih kemudian dibandingkan dengan formula kontrol menggunakan uji *pairing T test*. Hasil analisis menunjukkan bahwa penambahan proporsi tepung porang dan residu jus jeruk tidak berpengaruh nyata terhadap sifat kimia kadar air ( $p=0.818$ ); kadar abu ( $p=0,488$ ); kadar karbohidrat ( $p=0,086$ ); dan kadar serat pangan konnyaku ( $p=0,988$ ). Hasil analisis pada sifat fisik kekuatan gel tidak terdapat perbedaan nyata ( $p=0,368$ ) namun terdapat perbedaan nyata pada sineresis ( $p=0,000$ ). Hasil organoleptik berdasarkan analisis ragam menunjukkan bahwa terdapat perbedaan nyata pada konnyaku residu jus jeruk terhadap warna ( $p=0.002$ ), tekstur ( $p=0.000$ ), aroma ( $p=0.023$ ), dan rasa ( $p=0.005$ ). Takaran saji konnyaku sebesar 250 g telah memenuhi 4,04 AKG energi dan 6,69% AKG karbohidrat. Kandungan serat dalam konnyaku reaidu jus jeruk menyumbang sekitar 82,43% kebutuhan serat sehari (24,73 gram).

**Kata kunci:** tepung porang, residu jus jeruk, konnyaku, obesitas

# THE EFFECT OF ADDITIONAL ORANGE JUICE RESIDUES ON THE PHYSICOCHEMICAL AND ORGANOLEPTICAL PROPERTIES OF CONNYAKU AS AN ALTERNATIVE FOR OBESITY SUFFERING

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## Abstract

In 2018, The obesity rate in Indonesia based on data from Basic Health Research (*Riskesdas*), has reached 21.8 percent. This figure has continued to rise since *Riskesdas* in 2007, namely 10.5 percent and 14.8 percent in 2013 (Kemenkes RI, 2018). In fact, the obesity rate in Indonesia is ranked 163 in the world (World Health Organization / WHO, 2020). On the other hand, the DKI Jakarta Health Office in 2019 stated in its research of 1.3 million respondents from Jakarta that 35 percent (3.64 million people) of Jakarta residents are obese. The research method used was a one-factor completely randomized design (CRD) with two repetitions. These factors are the konnyaku formula which is divided into 3 formulas with each percentage level of konnyaku flour and orange juice residue is F1 (konnyaku flour: 2.5 percent and orange juice residue: 10.23 percent); F2 (konjac flour: 3.41 percent and orange juice residue: 9.37 percent); and F3 (Konnyaku flour: 4.26% and orange juice residue 8.52%). Data analysis used for chemical and physical analysis was analysis of variance (ANOVA) and advanced analysis of the Duncans Multiple Range Test (DMRT), while the organoleptic test used the Kruskal Wallis test. The determination of the selected formula is carried out on several parameters based on the exponential comparison method (MPE). The selected formula is then compared with the control formula where the pairing T test is used. The analysis showed that the addition of the proportion of porang flour and orange juice residue had no significant effect on the chemical properties of water content ( $p = 0.818$ ); ash content ( $p = 0.488$ ); carbohydrate content ( $p = 0.086$ ); and konjac dietary fiber content ( $p = 0.988$ ). The results of the analysis on the physical properties of the gel strength were not significantly different ( $p = 0.368$ ) but there was a significant difference in syneresis ( $p = 0.000$ ). Organoleptic results based on analysis of variance showed that there were significant differences in konjac orange juice residue with respect to color ( $p = 0.002$ ), texture ( $p = 0.000$ ), aroma ( $p = 0.023$ ), and taste ( $p = 0.005$ ). The 250 g serving of konjac has fulfilled the energy RDA 4.04 and 6.69% RDA for carbohydrates. The fiber content in konjac reaidu orange juice contributes about 82.43% of daily fiber needs (24.73 grams).

**Key words:** porang flour, orange juice residue, konjac, obesity