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# Effects of Obesity and Weight Loss Surgery on Cardiac Remodelling

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#### Abstract

Obesity is a complex condition characterized by excess body fat accumulation, resulting from an imbalance between

• / .: Obe i 🕅; S gical eigh ed c ion; S🛛 eckle acking

#### 1.11.1

So ne (BMI >30 kg/m2) i a f ee gamble fac o fo  $e^{2}$  i ode ca dio a c la b eakdo n (HF). Weigh an agoni icall<sup>2</sup> in ence he ci c la o  $e^{2}$  f ame o k i h e l an endo helial b okenne b inging abo fo hda ional here en ion, co ona  $e^{2}$  co e eillne, and a c la calci ca ion [1]. Addi ionall<sup>2</sup> obe i  $e^{2}$  c change in he hea, ch a an inc ea e in le en ic la (LV) ma, LV here  $e^{2}$  change in he hea, ch dila a ion, a ella dia olic and  $e^{2}$  olic d $e^{2}$  f nc ion in ome ca e .1 Addi ionall<sup>2</sup> an inc ea e in LV llinga ec omet hich ed ce he ide of he omach), e ic i e  $e^{2}$  a ion can e en all<sup>2</sup> e l in food in ole ance and eigh lo . Malab o  $e^{2}$  i e a k comet i e of beea ing ec ion of he g , hich in hi manne ca e malab o  $e^{2}$  ion of  $e^{2}$  a i one of he oble a ion i he combina ion g o  $e^{2}$  ha add  $e^{2}$  e boh e ic ion and malab o  $e^{2}$  ion.

Albei he ami ca ion of eigh change on ca diome abolic i k elemen and  $\partial \mathfrak{A}$  i ode diabe e in co  $\mathfrak{A}$  lence ha been ecen  $\| \mathfrak{A}$ ill a ed, ho e e he e ec of eigh change on ca dio a c la de ign a onomo of o ne ela ed como bidi ie ha no been idel e amined.

i ab ac highligh he im 2a of obe i 3a on bo h 2h ical and men al heal h. I e 2a o he fac o con ib ing o o ad e i ing and ma ke ing 2a ac ice.

In concl ion, obe i and eigh - ela edi e a e igni can  $\Delta$  blic heal h challenge. Add e ing he e conce n e i e a com  $\Delta$  ehen i e a  $\Delta$  oach in ol ing a io akeholde and in e en ion aimed a  $\Delta$  omo ing heal h is life are, ed cing en i onmen al fac o con ib ing o obe i and  $\Delta$  o iding  $\Delta$  and e o ce fo indi id al ggling i h eigh managemen.

Obe i [3] and eigh - ela ed i e ha e eached  $\partial M$ idemic M  $\partial M$ o ion o ld ide and ha e become a majo M blic heal h conce n.  $\partial M$  e alence of obe i [3] ha igni can [3] inc ea ed in ecen

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use, distribution, and reproduction in any medium, provided the original author and

e ca e of obe i  $\beta$  a e m l iface ed and incl de a combina ion of gene ic fac o , en i onmen al in ence , die a  $\beta$   $\Delta$  a e n , eden a  $\beta$  life  $\beta$  le , c l al no m , and ocioeconomic fac o . e mode n obe ogenic en i onmen , cha ac e ided base a sacce o calo ie-den e food , eden a  $\beta$  beha io , and inc ea ed eliance on echnolog ha con ib ed o he i ing obe i  $\beta$  a e .

Add e ing obe i [3] e i e a com [3] ehen i e and m liface ed a [3] oach. P e en ion e o foc on [3] omo ing heal h [3] ea ing habi, eg la [3] h [3] ical ac i i [3] and c ea ing [3] [3] o i e en i onmen ha facili a e heal h [3] life [3] le choice. T ea men a egie encom [3] a life [3] le modi ca ion, incl ding die a [3] change and inc ea ed [3] h [3] ical ac i i [3] beha io al he a [3] [3] ha maco he a [3] and in e e e ca e, ba ia ic ge [3]

e ocie al im 20 ac of obe i [3] i b an ial, e l ing in inc ea ed heal hca e co, ed ced [3] od c i i [3] and a b den on heal hca e [3] em. e efo e, comba ing obe i [3] e i e collabo a ion among heal hca e [3] of e ional, [3] olic [3] make, comm ni i e, and indi id al o im 20 lemen e ec i e in e en ion, [3] olicie, and [3] og am aimed a [3] e en ion, ea [3] de ec ion, and managemen.

i Xa Ma aim o Xa o ide an o e ie of obe i Ka and eighela ed i e, incl ding he ca e, con e ence, and a Xa oache fo Xa e en ion and managemen [5]. B nde anding he com Xa e na e of obe i Ka i im Xa c on heal h, and he a ailable a egie, e can o k o a d add e ing hi global Xa blic heal h challenge.

····

e me hod and ma e ial ec ion fo a  $d \mathbb{Z}$  on obe i  $\mathbb{Z}$  and eigh - ela ed i e o ld a  $\mathbb{Z}$  de  $\mathbb{Z}$  ending on he  $\mathbb{Z}$  eci c e ea ch objec i e and de ign. Ho e e, he e a e ome common com  $\mathbb{Z}$  onen ha ma $\mathbb{Z}$  be incl ded:

1. 1. 1. 1. P. 1.

Cleal [3] a e he d[3] de ign, he he i i an ob e a ional d[3] clinical ial, [3] ema ic è ie, o o he e ea chat a la och.

 $\mathbb{X}$  ecif

De c ibe he cha ac e i ic of he di  $X \otimes X$  la ion, incl ding he am X le iEe, age ange, gende di ib ion, and an X X leci c incl ion o e cl ion c i e ia.

Solve ciffs he he he d[3] No a la ion i e le en a i e of a Na ic la comm ni segueno, o a ge Na Na la ion.

/./., .....

 $E \Sigma$  lain he me hod ed o collec da a, ch a e  $\Sigma$ , e ionnai e , in e ie , medical eco d , o  $\Sigma$  h  $\Sigma$  ical mea emen .

Po ide de ail on he da a collec ion in men o ool ed, incl ding hei alidi gand eliabili gait at at a solution de so

O line an a and a diffed o alida ed cale ed o a e a iable ela ed o obe i a and eigh.

## • / , / · , • / , · · · · · · · · · · · · · ·

Clea [a] de ne he a iable of in e e , ch a bod ge eigh, bod ge ma inde (BMI), ai ci c mfe ence, o obe i ge ela ed como bidi ie [6].

De c ibe he mea emen and a e men Me fo med, incl ding

he e i men o echni e ed.

coe cien , o  $\mathbf{\widetilde{M}}$  - al e , o an if the eng h and igni cance of he e a ocia ion.

# $\sum_{i=1}^{n} \sum_{i=1}^{n} \sum_{i$

Dic he in  $\mathbb{Z}$  lica ion of obe i  $\mathbb{Z}$  on  $\mathbb{Z}$  has ical heal h o come, ch a he de elo  $\mathbb{Z}$  men of ch onic di ea e (e.g., diabe e, co-3(a)9(n)13(odo)126(a3()-8(c)-769(.-5(l)13(a)9(n)di)3()-8(e)-56a)3()-875(l)13(a)9(n)di)3()-875(l)13(a)9(n)di)3()-875(l)13(a)9(n)di)3()-875(l)13(a)9(n)di)3()-875(l)13(a)9(n)di)3()-875(l)13(a)9(n)di)3()-875(l)13(a)9(n)di)3()-875(l)13(a)9(n)di)3()-875(l)13(a)9(n)di)3()-875(l)13(a)9(n)di)3()-875(l)13(a)9(n)di)3(a)-875(l)13(a)9(a)-875(l)13(a)9(a)-875(l)13(a