

DUE POTENTI FARMACI: ESERCIZIO FISICO E ALIMENTAZIONE

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Il chinesologo tra presente e futuro

(tratto dal sito internet della facoltà di scienze motorie di Verona)

Laurea in scienze motorie

“Il corso di laurea in Scienze motorie tende a fornire le competenze relative alla comprensione, alla progettazione, alla conduzione e alla gestione di attività motorie a carattere educativo, adattativo, ludico o sportivo, finalizzandole allo sviluppo, al mantenimento e al recupero delle capacità motorie e del benessere psicofisico ad esse correlato”.

Laurea specialistica in scienze delle attività motorie preventive ed adattate

“Il Corso di Laurea nasce da un approfondito dibattito che la Facoltà di Scienze Motorie ha svolto al suo interno sulla definizione delle funzioni e delle capacità professionali di questa figura che deve, a tutti gli effetti, essere considerata una nuova figura professionale dedicata al benessere, alla qualità della vita, alla lotta e alla prevenzione delle malattie”.

“Al termine del corso gli studenti dovranno aver acquisito una solida preparazione culturale specifica in ambito bio-medico, psicopedagogico, sociale e giuridico integrata con i contenuti ed i metodi fondamentali delle discipline motorie e sportive, finalizzata alla progettazione, conduzione e gestione di appropriati programmi di attività motoria indirizzati alla promozione, mantenimento e sviluppo dello stato di salute e del benessere individuale”.

Valore della prevenzione

(linee guida dell'Istituto Superiore di Sanità 2004)

Gli operatori sanitari che devono affrontare quotidianamente l'arduo compito, spesso destinato all'insuccesso, di trattare malattie in stato avanzato, hanno da sempre compreso intuitivamente il valore della prevenzione.

I benefici dell'introduzione della prevenzione nella pratica medica sono diventati sempre più evidenti negli ultimi 30-40 anni, con il calo dell'incidenza di patologie, in passato diffuse e debilitanti, a seguito dell'introduzione di efficaci campagne di prevenzione (es: I dati per età relativi alla mortalità per ictus confermano un calo di oltre il 50% dal 1972, attribuito almeno in parte agli interventi di diagnosi precoce e al trattamento dell'ipertensione).

L'ambito più promettente della prevenzione nell'attuale pratica medica potrebbe essere quello volto a favorire il cambiamento dello stile di vita personale dei pazienti con ampio anticipo rispetto all'insorgenza della patologia.

Gli studi pubblicati riportano sempre più spesso la correlazione fra lo stile di vita e le principali cause di morte.

Si calcola che il fumo da solo determini negli Stati Uniti un decesso su cinque. Tra questi 150.000 morti all'anno per neoplasia, 100.000 per patologia coronarica, 23.000 per malattia cerebrovascolare e 85.000 per malattie polmonari come polmonite e broncopneumopatia cronica ostruttiva.

L'inattività fisica e l'alimentazione scorretta contribuiscono all'insorgenza di patologie assai diffuse, fra le quali: l'aterosclerosi coronarica, le neoplasie, il diabete, l'osteoporosi.

Circa le metà di tutte le morti negli Stati Uniti avvenute nel 1990 può essere attribuita a fattori esterni (fumo, alcool, droghe, iperalimentazione, inattività fisica, incidenti stradali e rapporti sessuali non protetti).

Tali patologie sono pertanto potenzialmente prevedibili modificando lo stile di vita.

Gli ostacoli alla prevenzione

Benché esistano valide evidenze cliniche a sostegno dell'importanza della prevenzione in medicina, gli studi condotti hanno dimostrato che spesso non vengono attuati gli interventi di prevenzione raccomandati.

Ciò dipende da vari fattori, fra i quali la remunerazione inadeguata per gli interventi di prevenzione, la frammentazione dell'offerta dei servizi e la mancanza di tempo sufficiente da dedicare ai pazienti da parte del medico, al fine di assicurare tutti gli interventi di prevenzione raccomandati.

Malattia cronica e salute

Nel secolo scorso (XX° secolo) la medicina ha svolto un eccellente lavoro per quanto riguarda il trattamento delle malattie infettive acute, che del resto possono essere correlate ad una singola causa, batterica o virale. Nel XXI° secolo il trattamento delle malattie croniche rimane la sfida maggiore per la medicina. I fattori che determinano le malattie croniche sono vari.

La medicina tende ancora a trattare i sintomi e non le cause che ne stanno alle origini.

L'obiettivo principale della prevenzione è di ridurre il rischio di sviluppare malattie croniche.

Il vero obiettivo della medicina del XXI° secolo dovrebbe essere quello di mantenere il soggetto in uno stato di salute e benessere e prevenire perciò la malattia.

Ciò può essere ottenuto diminuendo l'infiammazione ("silent inflammation") e aumentando l'irrorazione sanguigna ai vari livelli.

Il modo più efficace per aumentare il flusso sanguigno e ridurre l'infiammazione si ottiene attraverso la modulazione ormonale, in particolare quella di un gruppo di ormoni conosciuti come eicosanoidi.

L'esercizio fisico e l'alimentazione agiscono potentemente sul sistema ormonale, per questo li possiamo considerare due potenti "farmaci".

Nessuno di noi penserebbe di assumere dei farmaci non conoscendone le indicazioni, il dosaggio necessario e di conseguenza gli effetti.

I benefici per la salute dell'attività fisica:

" Si raccomanda di consigliare ai pazienti di praticare regolarmente attività fisica come abitudine quotidiana, per prevenire patologie quali la cardiopatia ischemica (CHD), l'ipertensione, l'obesità, e il diabete. La presente raccomandazione si basa sui benefici comprovati dell'attività fisica eseguita regolarmente " (Istituto Superiore di Sanità 2004).

Un importante traguardo medico è la dimostrazione che l'attività fisica svolta con regolarità riduce il rischio di morte prematura, coronaropatia, ipertensione, obesità, diabete mellito, cancro al colon e probabilmente altre forme tumorali (seno, prostata, polmone, utero, ecc.). A maggior conferma una serie di dati comparsi in letteratura ha evidenziato che l'inattività o un fitness cardiorespiratorio inadeguato sono fattori predittivi di mortalità e di morbilità importanti, quanto l'eccesso di peso, l'obesità, il fumo, l'ipercolesterolemia e l'ipertensione.

Alla sensazione di benessere che segue un allenamento si sommano gli effetti benefici per il sistema cardiovascolare (esercizi aerobici), per la forza (esercizi anaerobici – es: i pesi), per il controllo del peso e per la salute in genere. Studi della American Diabetes Association (ADA) riconoscono all'esercizio fisico un ruolo importante nella riduzione del rischio diabetico e per i soggetti con diabete di tipo 2 ritengono necessari solo due tipi di trattamenti: dieta ed esercizio.

L'allenamento esalta i benefici di una corretta alimentazione, e riduce l'effetto negativo di regimi alimentari scorretti.

L'esercizio fisico abbassa l'eccesso di glucosio nel sangue e di conseguenza i livelli di insulina.

Gli esercizi a seconda della tipologia degli stessi (aerobici, anaerobici, misti) ci consentono di agire su sistemi ormonali differenti. Negli esercizi anaerobici, come la corsa veloce, gli scatti, i pesi, l'intensità è elevata.

E' convinzione erronea che questo tipo di esercizi non servano per ridurre il peso, al contrario oltre a sviluppare la massa magra corporea (responsabile del metabolismo basale), permettono di utilizzare indirettamente i grassi. Infatti, se l'esercizio anaerobico è abbastanza intenso, viene stimolata la produzione, del potentissimo ormone della crescita che, assieme a testosterone, tra le altre funzioni presiede alla riparazione delle microlesioni muscolari

provocate dall'allenamento anaerobico e incrementa lo spessore delle fibre muscolari (ipertrofia).

Tutta l'energia necessaria per questo enorme lavoro, deriva dal metabolismo dei grassi (accumulati nelle riserve).

L'ormone della crescita, secreto dall'ipofisi è considerato il più potente "brucia grassi", il suo rilascio è modulato anche dagli ormoni eicosanoidi "buoni" ed è inibito dall'insulina.

L'ormone della crescita viene prodotto anche durante il sonno notturno nella fase REM, per cui migliore è la qualità del sonno, più ormone della crescita viene prodotto.

Gli esercizi aerobici richiedono un maggior consumo di ossigeno e sono particolarmente adatti a bruciare i grassi, inoltre utilizzando il cardiofrequenzimetro è possibile calibrare in modo preciso l'intensità del lavoro aerobico.

Per migliorare lo stato di salute l'esercizio fisico deve essere regolare. Non si apprezzano miglioramenti con allenamenti discontinui ed irregolari.

Le dosi "ideali" di esercizio non possono essere qui indicate che in modo orientativo: una frequenza di 3 sedute di allenamento settimanale della durata di 60-90 minuti circa, con intensità personalizzata ed esercizi sia aerobici che anaerobici.

Anche per le persone anziane è indicato eseguire attività fisica, sempre personalizzata, con una frequenza di 2-3 allenamenti alla settimana.

Attualmente le moderne attrezzature ci consentono di allenare tutte le parti del corpo, in assoluta sicurezza e con un certo divertimento.

I benefici per la salute dell'attività fisica sulle varie patologie:

Cardiopatía ischemica (CHD)

Non ci sono studi prospettici che abbiano valutato l'attività fisica come intervento atto a prevenire la CHD. Evidenze, derivate da vari studi hanno comunque dimostrato una correlazione consistente tra l'attività fisica e la ridotta incidenza della CHD.

Inoltre l'inizio di un'attività sportiva moderatamente vigorosa è stato associato ad una riduzione del rischio di morte per CHD pari al 41%, paragonabile alla riduzione di rischio associata alla sospensione del fumo (44%).

L'aumento dell'attività fisica e la riduzione della CHD è supportata da effetti fisiologici dimostrati, che suggeriscono meccanismi biologici plausibili (per esempio, un aumento della fibrinolisi, una riduzione dell'adesività piastrinica, un miglioramento del profilo delle lipoproteine ed una ridotta risposta adrenergica allo stress).

Obesità

Le categorie di soggetti che dedicano poco tempo all'attività fisica hanno un rischio maggiore di sviluppare un incremento di peso significativo rispetto alle categorie che praticano un'attività fisica maggiore.

Diabete mellito non-insulino dipendente

Gli studi evidenziano una relazione inversa tra i livelli di attività fisica ed il rischio di sviluppare un diabete mellito non-insulino dipendente (NIDDM). Questo effetto è pronunciato negli uomini in sovrappeso, ma è evidente anche nelle donne. Il rischio standardizzato per età di NIDDM, è ridotto del 6% per ogni incremento di 500 K/cal. spese per settimana.

Osteoporosi

Gli studi sostengono che l'attività fisica può ritardare la perdita di massa ossea nelle donne in menopausa, e soggetti più attivi evidenziano maggior massa ossea di soggetti sedentari.

Disturbi mentali

Studi controllati dimostrano il miglioramento di depressione, ansia, a seguito di attività fisica svolta regolarmente.

L'influenza dell'alimentazione sulla salute:

Ippocrate (460-377 a.C.) disse: "Lasciate che il cibo sia la vostra medicina e che la medicina sia il vostro cibo".

Le malattie associate all'eccesso alimentare e/o a una dieta sbilanciata sono tra le maggiori cause di malattia e morte negli Stati Uniti. Le più importanti malattie per le quali la dieta gioca un ruolo importante comprendono le cardiopatie ischemiche, alcuni tipi di neoplasia, l'ictus, l'ipertensione, l'obesità e il diabete mellito non insulino-dipendente.

L'apporto calorico, se superiore alle calorie spese, può causare sovrappeso e obesità. L'obesità è un fattore di rischio per diverse patologie gravi, compresa l'ipertensione, le malattie cardiovascolari, il cancro e il diabete mellito ad esordio in età adulta.

Un bambino in età scolare ha in media una carie in un dente permanente entro i nove anni, tre carie entro i 12 anni, e otto carie entro i 17 anni, dovute ad un eccesso di carboidrati a alto indice glicemico (dolci, ecc.) nella dieta. Un adulto americano ha in media da 10 a 17 denti cariati, mancanti o curati e un dente permanente cariato non trattato.

Negli anziani sono comuni i disordini alimentari (sia in eccesso sia in difetto), e fino al 40% degli anziani ha un insufficiente apporto di tre o più elementi nutritivi.

Molti anziani soffrono di malnutrizione calorica proteica legata alle ridotte disponibilità economiche.

Le abitudini alimentari scorrette, protratte nel tempo, possono avere un impatto significativo sull'incidenza e sulla severità di molte malattie.

Le persone in sovrappeso hanno un maggior rischio di intolleranza al glucosio, ipertensione, ipercolesterolemia, e altre patologie.

E' dimostrato che un calo del peso corporeo riduce questi rischi.

L'individuo medio trae beneficio da un adeguato regime dietetico associato ad esercizio fisico, che mantenga un bilancio equilibrato tra apporto e consumo calorico. Oltre ad un bilancio calorico equilibrato, modificare l'apporto di determinati componenti alimentari può aiutare a prevenire alcune malattie. Un ridotto apporto di grassi saturi (e anche di grassi vegetali parzialmente idrogenati), sembra ridurre il rischio di sviluppare una cardiopatia ischemica. Diversi studi epidemiologici hanno dimostrato la relazione tra i livelli di colesterolo serico e lo sviluppo di aterosclerosi coronarica. I livelli di colesterolemia possono a loro volta essere modificati da misure dietetiche.

Vari studi suggeriscono un'associazione tra acidi grassi contenuti preferenzialmente nell'olio di pesce e la riduzione del rischio di patologie cardiovascolari.

Un aumentato apporto di frutta e verdura si associa ad una riduzione del rischio di ictus e neoplasie.

L'aumentato apporto di fibre con la dieta migliora le funzioni gastrointestinali ed alcuni tipi di fibre possono essere utili anche nella terapia dell'intolleranza al glucosio, nella riduzione del peso corporeo e nel controllo dei disordini lipidici.

Il consumo di alimenti contenenti grandi quantità di fibre solubili (per esempio, fagioli secchi e prodotti a base d'avena) sembra abbassare il livello di colesterolo LDL.

Una dieta ad alto contenuto di fibre insolubili (per lo più cibo vegetale) può essere efficace nel ridurre la pressione all'interno del colon e nel prevenire la malattia diverticolare.

Anche il rischio di sviluppare un tumore del colon-retto può essere influenzato dall'apporto di fibre con la dieta.

Almeno 15 studi hanno dimostrato l'esistenza di una relazione inversamente proporzionale tra il consumo di fibre con la dieta e l'incidenza di neoplasia del colon.

Diversi studi clinici hanno dimostrato l'efficacia della restrizione dietetica di sodio nell'abbassare la pressione arteriosa di diversi millimetri di mercurio, sia in individui ipertesi che normotesi, e una correlazione tra l'apporto di sodio nelle diverse popolazioni e l'incidenza di ipertensione. Studi di popolazione e studi trasversali suggeriscono che un ridotto apporto di calcio nelle donne, specialmente se giovani, possa essere un importante fattore di rischio di perdita minerale ossea ed osteoporosi post-menopausale.

Inoltre, altri studi suggeriscono che un supplemento di calcio nell'adolescenza e nella prima età adulta possa aumentare la densità minerale ossea.

Il ruolo del beta-carotene, delle vitamine (esempio vitamina A, vitamina C, vitamina E) e di altri antiossidanti (radicali liberi) sembra ridurre il rischio di neoplasia, aterosclerosi e altre patologie croniche.

Da questa prima analisi si può dedurre che il cibo non è solo fonte di calorie, ma soprattutto determina delle reazioni ormonali diverse dipendenti dal tipo di macronutrienti assunti. La scienza dell'alimentazione è radicalmente cambiata negli ultimi anni, il biochimico ricercatore Barry Sears teorico della dieta a "zona" ci ha fatto capire come:

- il cibo può modulare efficacemente la risposta ormonale.
- ci sono due sistemi ormonali controllati dalla dieta: gli eicosanoidi e l'insulina. Gli eicosanoidi sono controllati dall'equilibrio fra i diversi grassi essenziali assunti con i cibi; l'insulina invece è controllata dall'equilibrio tra le proteine ed i carboidrati contenuti in ogni pasto e dall'indice glicemico degli alimenti. Inoltre c'è un'altra fonte importante di interazione che riguarda le intolleranze alimentari individuali.

L'obiettivo di un programma nutrizionale è quello di mantenere il soggetto all'interno di una zona di equilibrio: "Zona ormonale" che definisce lo stato di benessere. Tale ambito può essere documentato da specifici esami del sangue. I benefici che derivano dal fatto di mantenere l'individuo in questo range ormonale è che lo stato infiammatorio sistemico risulterà diminuito e il flusso sanguigno aumentato.

Il concetto di benessere dell'organismo basato sull'evidenza richiede un monitoraggio appropriato (Evidence-based wellness).

Il controllo della secrezione insulinica viene raggiunto bilanciando proteine e carboidrati ad ogni pasto. La massima quantità di proteine a pasto non dovrebbe superare gli 85 grammi per le donne ed i 120 grammi per gli uomini. La maggior parte dei carboidrati dovrebbe derivare dalla verdura e dalla frutta, mentre gli amidi (pane, riso, patate, pasta) dovrebbero essere consumati in maniera ridotta, come contorni. I grassi dovrebbero essere per la maggior parte monoinsaturi e polinsaturi come gli omega 3, salutari per il cuore. L'uso eccessivo di proteine provoca aumento dell'azoto e della creatinina. Il fegato non riesce a metabolizzare del tutto le proteine, e nel sangue si ha una eccessiva quantità di "corpi chetonici". Una dieta ad alto uso di carboidrati porta all'innalzamento dei livelli di insulina. La dieta ideale è perciò quella bilanciata ovvero costituita da un corretto rapporto tra carboidrati, proteine e grassi (Il rapporto ideale sembra essere 40-30-30 +/- 5).

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