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NAPOLI

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REGISTRO DEGLI OSTEOPATI D'ITALIA

30 ANNI DI OSTEOPATIA IN ITALIA
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SANITA' PUBBLICA E PREVENZIONE: QUALE RUOLO PER L'OSTEOPATA ?

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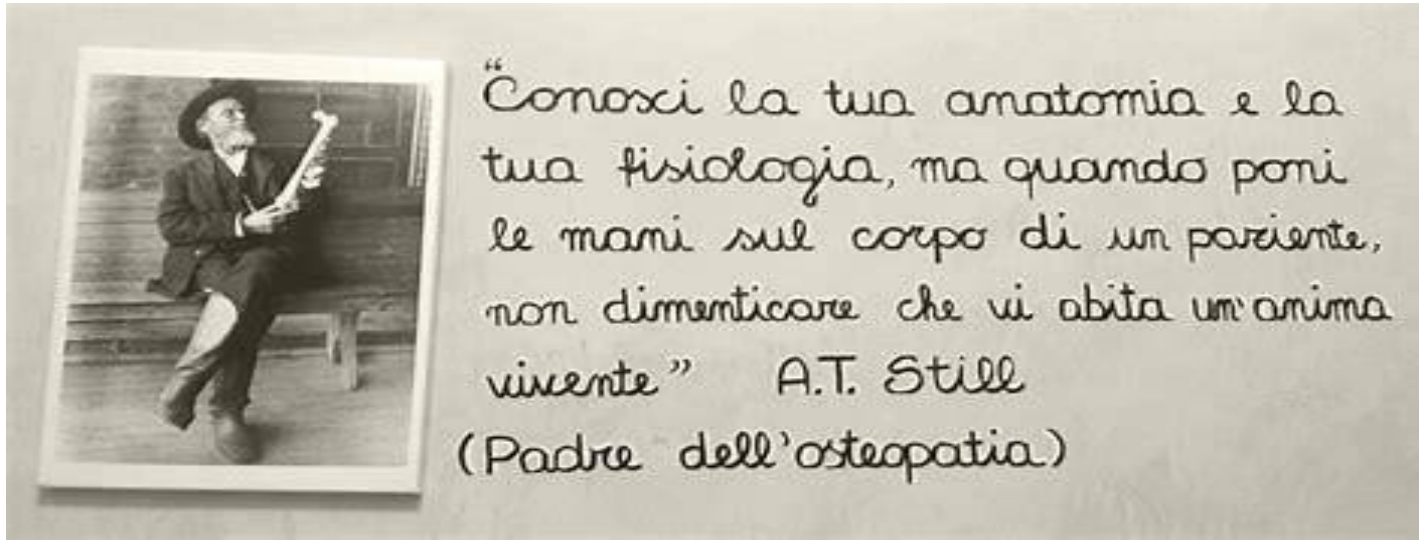
1.LE DEFINIZIONI E LE NORME



Sanità Pubblica

La scienza e l'arte di promuovere la salute, di prevenire le malattie e di prolungare la vita attraverso sforzi organizzati della società.

Prevenzione delle malattie

La prevenzione delle malattie non comprende solo misure finalizzate a prevenire l'insorgenza delle malattie, come ad esempio la riduzione dei fattori di rischio, ma riguarda anche misure volte ad arrestare l'evoluzione di una malattia già insorta e a ridurne le conseguenze.

Osteopatia

L'osteopatia è definita dall'Organizzazione Mondiale della Sanità come una professione sanitaria di contatto primario con competenze di diagnosi, gestione e trattamento dei pazienti, esclusivamente manuale, che s'indirizza a tutti i cittadini, dal neonato all'anziano.

Essa si basa sull'evidenza che nell'organismo umano l'integrità della struttura e l'efficienza della funzionale sono strettamente legate e che l'organismo umano dimostra in varie condizioni una tendenza intrinseca verso il raggiungimento di un nuovo livello omeostatico il più prossimo possibile a quello in cui si trovava prima dell'evento.

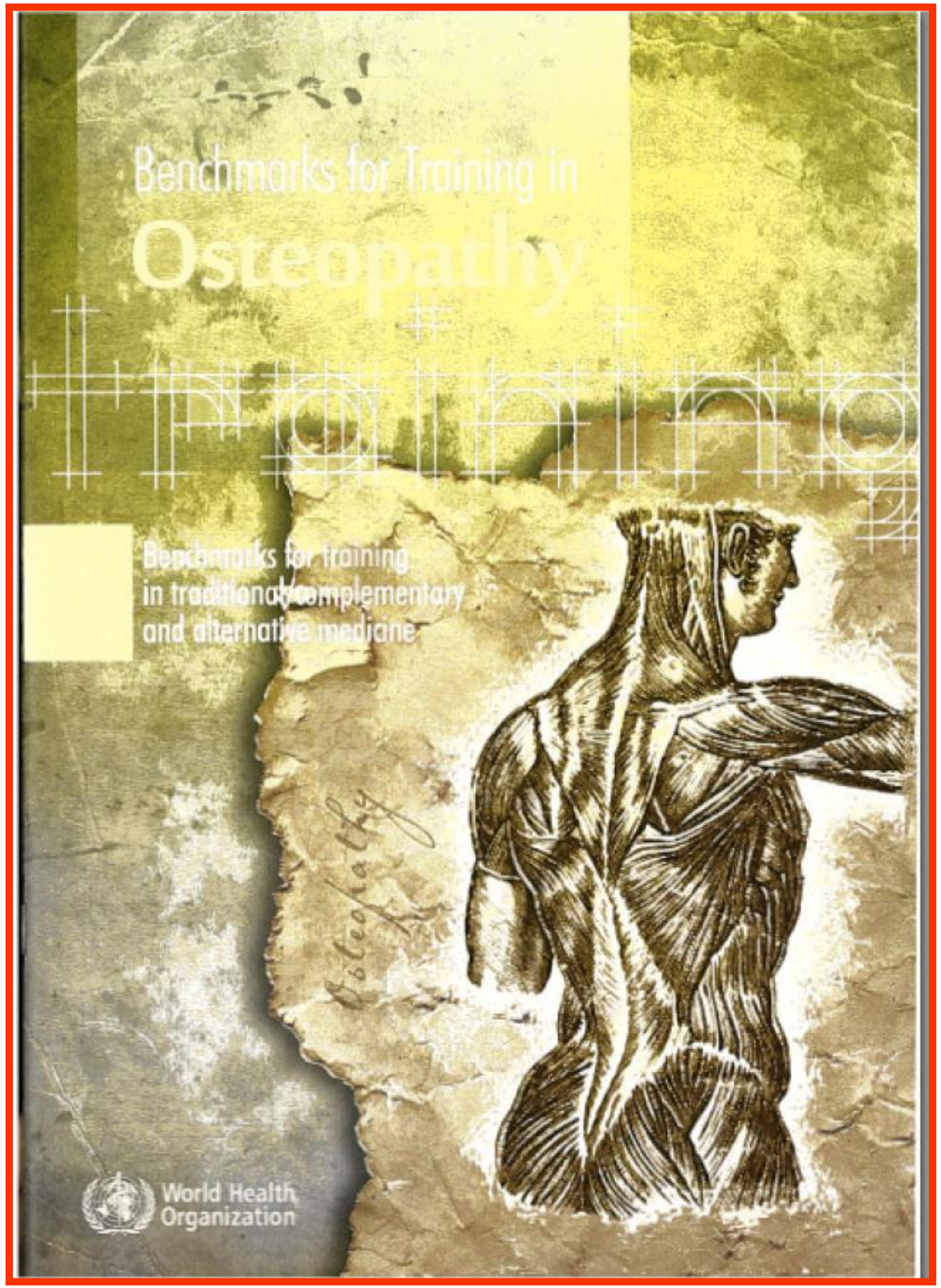
L'obiettivo del medico deve essere quello di ricercare la salute, tutti sono capaci di trovare la malattia." (By A.T. Stlill)

L'Osteopatia in Italia è individuata dalla legge 3/2018 conosciuta anch come legge Lorenzin che recita:

"Nell'ambito delle professioni sanitarie sono individuate le professioni dell'osteopata e del chiropratico, per l'istituzione delle quali si applica la procedura di cui all'articolo 5, comma 2, della legge 1° febbraio 2006, n. 43, come sostituito dall'articolo 6 della presente legge."

Il 29/09/2021 è stato pubblicato in Gazzetta Ufficiale il Decreto del Presidente della Repubblica del 7 luglio 2021, n. 131 che istituisce la Professione Sanitaria dell'Osteopata.

Art. 1 L'osteopata è il professionista sanitario, in possesso di laurea triennale universitaria abilitante o titolo equipollente e dell'iscrizione all'albo professionale, che svolge in via autonoma, o in collaborazione con altre figure sanitarie interventi di prevenzione e mantenimento della salute attraverso il trattamento osteopatico di disfunzioni somatiche non riconducibili a patologie, nell'ambito dell'apparato muscolo scheletrico.



Parametri di riferimento per la formazione in medicina tradizionale / complementare e alternativa

Parametri di riferimento per la formazione in osteopatia

World Health Organization

1.2 Modelli di relazione struttura-funzione

Cinque modelli principali, di relazione struttura-funzione, guidano l'approc dell'osteopata alla diagnosi e al trattamento. Tali modelli di solito si utilizzano in combinazione per contestualizzare l'interpretazione della rilevanza di una disfunzione somatica nell'ambito delle informazioni cliniche oggettive e soggettive. La combinazione scelta viene adattata alla diagnosi differenziale, alle co-morbilità, ad altri regimi terapeutici e alla risposta al trattamento del paziente.

1.2.1 Il modello di struttura-funzione biomeccanico

Il modello biomeccanico considera l'organismo come un'integrazione di componenti somatiche che sono correlate come un meccanismo per la postura e l'equilibrio. Eventuali sollecitazioni o squilibri all'interno di tale meccanismo possono compromettere la funzionalità dinamica, aumentare il dispendio di energia, alterare la propriocezione (il senso di posizione relativa di un soggetto e il movimento di parti del corpo attigue), modificare strutture articolari, impedire la funzionalità neurovascolare e alterare il metabolismo (5-7). Questo modello applica approcci terapeutici, comprese le tecniche manipolative osteopatiche, che consentono di ripristinare postura, equilibrio e un uso efficiente delle componenti muscoloscheletriche.

1.2.2 Il modello di struttura-funzione respiratorio / circolatorio

Il modello respiratorio / circolatorio si occupa del mantenimento degli ambienti extracellulari e intracellulari attraverso il rifornimento senza ostacoli di ossigeno e di sostanze nutritive, nonché la rimozione di prodotti di scarto cellulari. Stress tessutali o altri fattori, che interferiscano con il flusso o la circolazione di qualsiasi liquido corporeo, possono compromettere la salute dei tessuti (8). Questo modello applica approcci terapeutici, comprese le tecniche manipolative osteopatiche, per affrontare disfunzioni a livello di meccanica respiratoria, circolazione e flusso di liquidi corporei.

1.2.3 Il modello di struttura-funzione neurologico

Il modello neurologico considera l'influenza di facilitazione spinale, funzione propriocettiva, sistema nervoso autonomico e attività dei nocicettori (fibre dolorifiche) sulla funzionalità del sistema immunitario neuroendocrino (9-15). Di particolare importanza risulta essere la relazione tra sistemi somatico e viscerale (autonomico). Questo modello applica approcci terapeutici, comprese le tecniche manipolative osteopatiche, per ridurre le sollecitazioni meccaniche, equilibrare gli input neurali e ridurre o eliminare gli impulsi nocicettivi.

1.2.4 Il modello di struttura-funzione biopsicosociale

Il modello biopsicosociale riconosce le varie reazioni e i vari stress psicologici che possono influenzare la salute e il benessere dei pazienti. Essi comprendono fattori ambientali, socioeconomici, culturali, fisiologici e psicologici che a loro volta influenzano la malattia. Questo modello applica approcci terapeutici, comprese le tecniche manipolative osteopatiche, per affrontare gli effetti e le reazioni derivanti da vari stress biopsicosociali.

1.2.5 Il modello di struttura-funzione bioenergetico

Il modello bioenergetico riconosce che l'organismo cerca di mantenere un equilibrio tra produzione, distribuzione e dispendio di energia. Mantenere tale equilibrio aiuta il corpo ad adattarsi meglio a vari fattori stressors (immunologici, nutrizionali, psicologici, ecc.). Questo modello applica approcci terapeutici, comprese le tecniche manipolative osteopatiche, per affrontare fattori potenzialmente in grado di alterare la produzione, la distribuzione o il dispendio di energia (6, 7, 16).

healthcare

MDPI

Review

International Overview of Somatic Dysfunction Assessment and Treatment in Osteopathic Research: A Scoping Review

Marco Tramontano [1,*], Federica Tamburella [1], Fulvio Dal Farra [2], Andrea Bergna [2,3], Christian Lunghi [4], Mattia Innocenti [5], Fabio Cavera [5], Federica Savini [5], Vincenzo Manzo [5] and Giandomenico D'Alessandro [4,5]

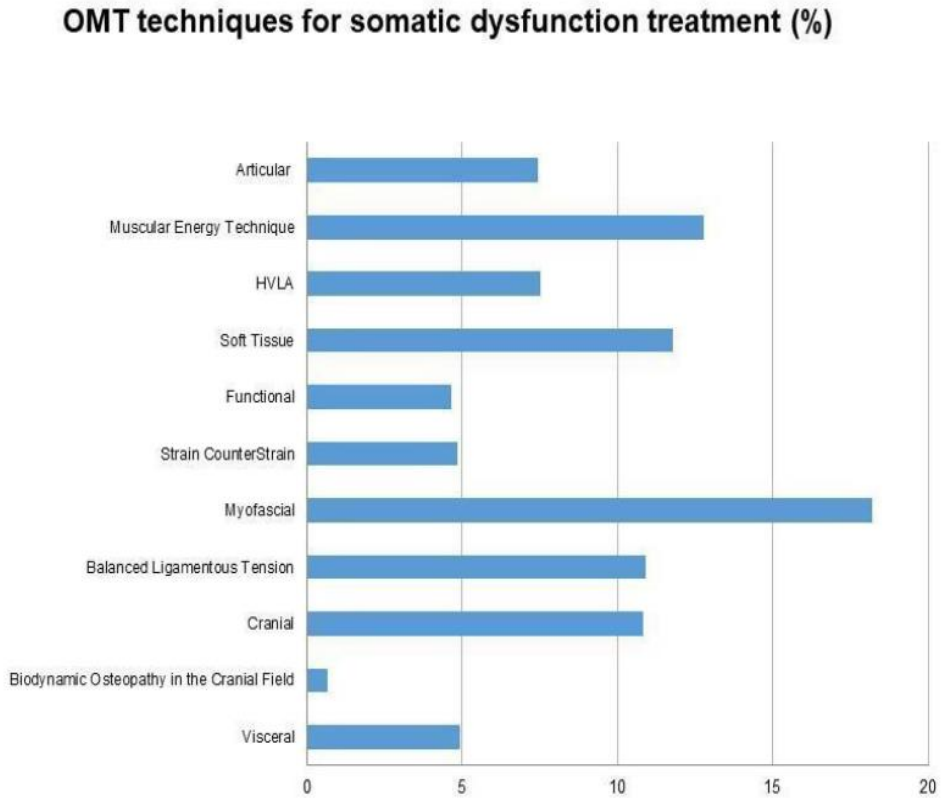


Figure 4. OMT techniques used for the treatment of somatic dysfunction across the studies included in the review. OMT = Osteopathic Manipulative Treatment.

ISTITUTO SUPERIORE DI SANITÀ

Promozione della salute

La promozione della salute è il processo che consente alle persone di esercitare un maggiore controllo sulla propria salute e di migliorarla

Educazione alla salute

L'educazione alla salute è l'insieme delle opportunità di apprendimento consapevolmente costruite, che comprendono alcune forme di comunicazione finalizzate a migliorare l'alfabetizzazione alla salute, ivi compreso l'aumento delle conoscenze e a sviluppare life skills che contribuiscano alla salute del singolo e della comunità.

OMS 1998

La prevenzione primaria è volta a prevenire l'insorgere iniziale di una malattia. La prevenzione secondaria e terziaria sono invece volte ad arrestare o a ritardare le malattie già esistenti e i loro effetti, attraverso una diagnosi precoce e una terapia appropriata, oppure a ritardare le recidive e il passaggio ad uno stato di cronicità, per esempio attraverso un'efficace riabilitazione.

Talvolta, prevenzione delle malattie è utilizzato come termine complementare di promozione della salute. Sebbene vi sia una frequente sovrapposizione tra le due voci rispetto al contenuto e alle strategie, viene comunque data una definizione separata di prevenzione delle malattie. In questo specifico contesto, è considerata un'azione svolta solitamente dal settore sanitario e diretta ad individui e popolazioni che presentano fattori di rischio riconoscibili, spesso associati a diversi comportamenti a rischio.

OMS 1998

Livelli di influenza su Salute e Comportamenti

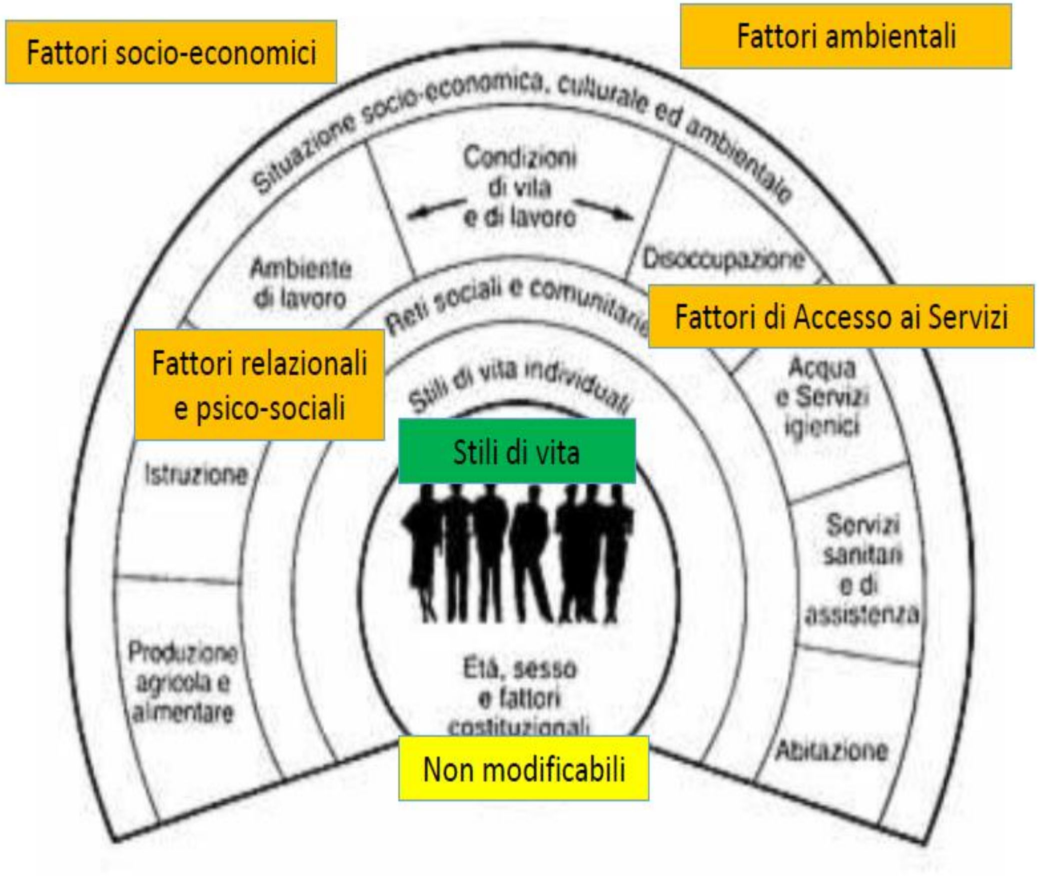
Prospettiva ecologica
Mc Elroy, 1988

La salute è una risorsa per la vita quotidiana, un concetto positivo che enfatizza le risorse sociali, personali e le abilità fisiche.

World Health Organization. Health Promotion: a Discussion Document on the Concept and principles. Copenhagen, Denmark: WHO Regional Office for Europe; 1984

Fattori che agiscono come determinanti della salute

Determinanti di salute. L'insieme di fattori personali, sociali, economici ed ambientali che determinano lo *stato di salute* di individui o popolazioni.



Fattori protettivi:

-Stile di vita sano (es. attività fisica; alimentazione equilibrata)

-Accesso ai Servizi (es. livello di istruzione alto)

-Fattori socio economici (es. appartenere ad un paese ad alto reddito)

Fattori di rischio:

-Stile di vita a rischio (es. fumare; consumi a rischio di alcol, inattività fisica)

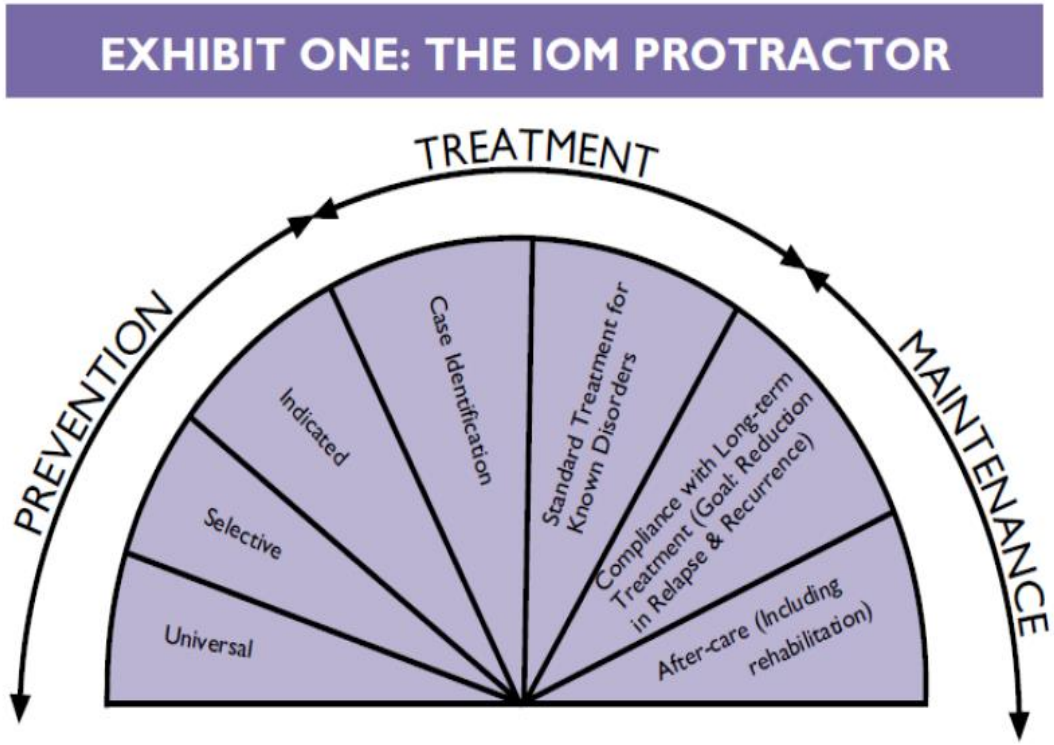
-Accesso ai Servizi (es. basso livello di istruzione; inadeguatezza della distribuzione dei servizi sanitari)

-Fattori socio-economici (es. appartenere a paesi in via di sviluppo; mancanza di politiche sanitarie eque)

Rischio: La probabilità futura di contrarre una malattia, in funzione dell'esposizione ad uno specifico fattore.

Dahlgren, G. and M. Whitehead. 1991. Policies and Strategies to Promote Social Equity in Health. Stockholm, Sweden: Institute for Futures Studies.

Un approccio alle cure per la salute inclusivo di tutte le fasi



Springer F, Phillips JL. The IOM Model: what is it?. Universal, Selected, Indicated. The IOM Model and Prevention. *Prevention Tactics*, 8:13 (2006)

Fig. 1.1 il continuum del modello di cura dell'Istituto di Medicina

Tabella 1.2: Classificazione degli approcci di prevenzione rivisitata dall'Istituto di Medicina (Springer and Phillips, 2007).

Prevenzione Universale	Rivolta alla popolazione generale o a segmenti della popolazione con una probabilità di rischio o di sviluppare il disturbo nella media
Prevenzione Selettiva	Specifiche sottopopolazioni con rischi significativamente sopra la media, imminenti o riferiti al corso della vita
Prevenzione Indicata	Rivolta a individui identificati con minimi ma identificabili segni o sintomi che suggeriscono un disturbo

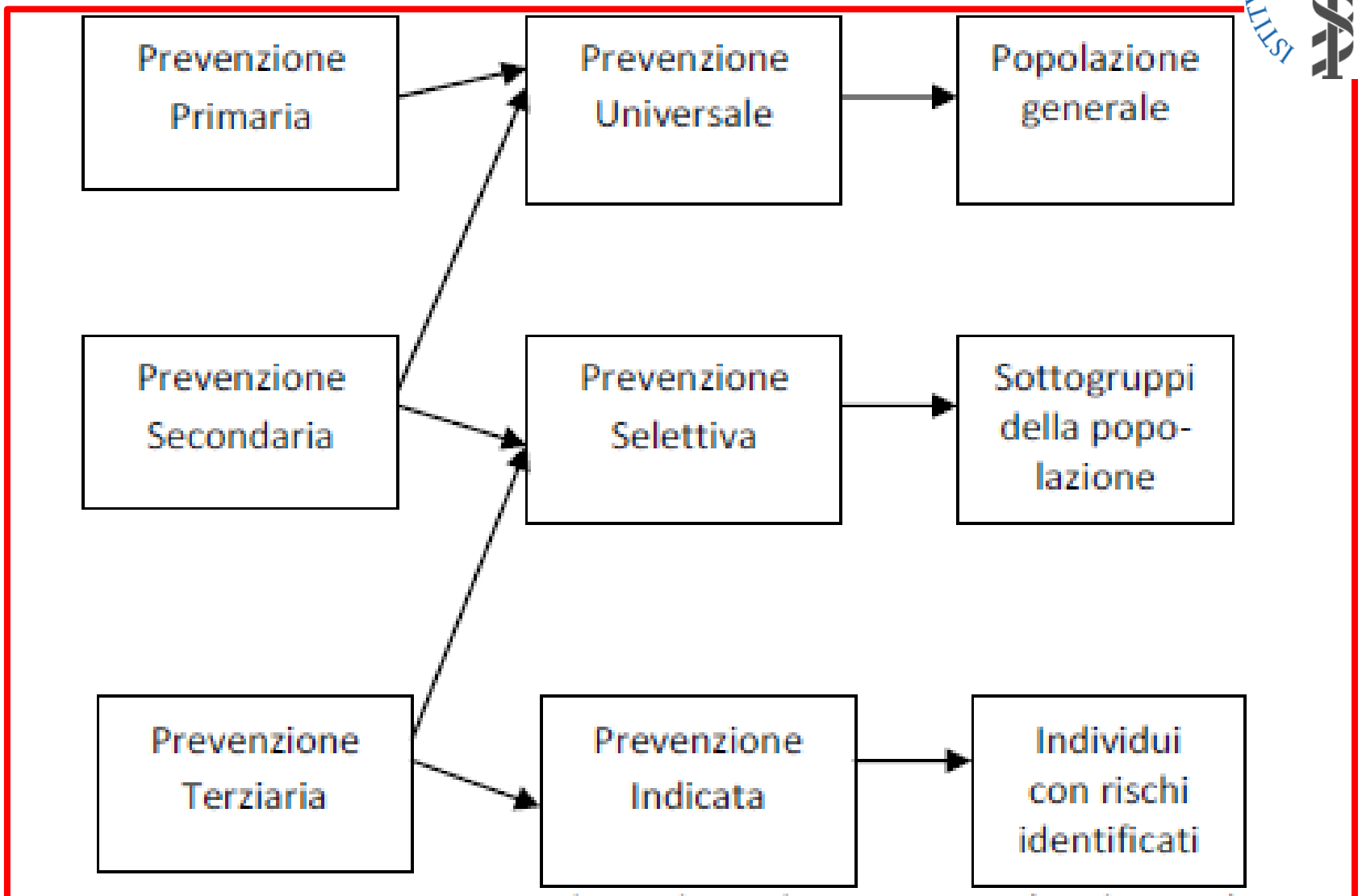


Figure 1.2: Sovrapposizioni tra le tipologie di prevenzione (Meili, 2004).

2.IL PIANO NAZIONALE DELLA PREVENZIONE

- Il PNP e i PRP svolgono un ruolo di *governance* e orientamento, favorendo il collegamento e l'integrazione tra le azioni previste da leggi, regolamenti, Piani di settore.
  Le principali aree di integrazione riguardano:
  - cronicità e connessione con il relativo Piano Nazionale;
  - malattie trasmesse con gli alimenti
  - malattie trasmesse da vettori
  - gestione delle emergenze epidemiche umane ed animali, incluso il COVID-19;
  - igiene urbana veterinaria;
  - produzione, commercio ed impiego di prodotti chimici tra cui i fitosanitari;
  - prevenzione del "rischio chimico"
  - rapporti con la rete oncologica, i registri tumori, i Distretti e i Medici di Medicina Generale e i Pediatri di Libera Scelta (MMG e PLS);
  - promozione della salute in gravidanza e nei primi 1000 giorni;
  - integrazione delle tematiche ambientali con quelle relative alla promozione della salute
  - relazioni con l'INAIL riguardo l'esposizione dei lavoratori a rischi chimici o fisici.

- Il PNP 2020-2025 rafforza una visione che considera la salute come risultato di uno sviluppo armonico e sostenibile dell'essere umano, della natura e dell'ambiente (*One Health*) che, riconoscendo che la salute delle persone, degli animali e degli ecosistemi sono interconnesse, promuove l'applicazione di un **approccio multidisciplinare, intersettoriale e coordinato** per affrontare i rischi potenziali o già esistenti che hanno origine dall'interfaccia tra ambiente-animali-ecosistemi. L'approccio *One Health* consente di affrontare la questione trasversale della biodiversità e della salute umana, così come il contrasto efficace all'antimicrobico-resistenza, problema crescente di dimensioni globali, o come il contrasto all'emergenza di epidemie e pandemie che trovano origine nelle manomissioni e degrado degli ecosistemi con conseguenti trasferimenti di patogeni *(spillover)* dalla fauna selvatica a quella domestica, con successiva trasmissione all'uomo.
- L'elemento strategico di innovazione del PNP 2020-2025 sta nella scelta di sostenere il **riorientamento di tutto il sistema della prevenzione** verso un "approccio" di Promozione della Salute, rendendo quindi trasversale a tutti i Macro Obiettivi lo sviluppo di strategie di *empowerment* e *capacity building* raccomandate dalla letteratura internazionale e dall'OMS, coerentemente con lo sviluppo dei principi enunciati dalla Carta di Ottawa.

- Il PNP 2020-2025 intende consolidare l'attenzione alla **centralità della persona**, tenendo conto che questa si esprime anche attraverso le azioni finalizzate a migliorare l'*Health Literacy* (alfabetizzazione sanitaria) e ad accrescere la capacità degli individui di agire per la propria salute e per quella della collettività (*empowerment)* e di interagire con il sistema sanitario *(engagement)* attraverso relazioni basate sulla fiducia. Affermare la centralità della persona e delle comunità nell'ambito della programmazione sanitaria e sociosanitaria significa riconoscere che la salute, individuale e collettiva, è un processo il cui equilibrio è determinato da fattori sociali ed economici oltre che biologici.
- In tale contesto la **promozione della salute** è chiamata a caratterizzare le politiche sanitarie non solo nell'obiettivo di prevenire una o un limitato numero di condizioni patologiche, ma anche a creare nella comunità e nei suoi membri un livello di competenza e capacità di controllo (*empowerment*) che mantenga o migliori il capitale di salute.
- **MMG e PLS** sono figure chiave per favorire l'*health literacy* e l'*empowerment* dei cittadini e per contrastare le disuguaglianze. Pertanto, è necessario il loro attivo coinvolgimento, nell'ambito delle attività territoriali di promozione della salute, prevenzione e assistenza sanitaria primaria, affinché la loro azione sia di coerente supporto agli obiettivi nazionali di prevenzione.
- Il PNP 2020-2025 rafforza l'**approccio *life course*** nella consapevolezza che gli interventi preventivi e protettivi realizzati con tempestività nella primissima fase della vita portano a risultati di salute positivi che dureranno tutta la vita e si rifletteranno anche sulle generazioni successive e sulla comunità intera. L'approccio *life course* consente di ridurre i fattori di rischio individuali e rimuovere le cause che impediscono ai cittadini l'accesso ad ambienti e a scelte di vita salutari, mettendo in atto l'azione preventiva già a partire dai primi 1.000 giorni, cioè nel periodo che intercorre tra il concepimento e i primi due anni di vita del bambino.
- Il PNP 2020-2025 mira a migliorare l'**approccio per *setting*,** favorendo una maggiore interazione tra tutti i *setting* (la scuola, l'ambiente di lavoro, la comunità e i servizi sanitari) e individuando l'Ente locale (Comune) quale *"super-setting"* in cui gli altri convergono. Il *setting* è il luogo o il contesto nel quale è più facile raggiungere individui e gruppi prioritari per promuovere la salute e realizzare interventi di prevenzione. Nel contempo, il *setting* costituisce esso stesso il bersaglio dei cambiamenti da implementare sugli ambienti, sulle organizzazioni, sui centri di responsabilità.

Macro Obiettivi

MO1 - Malattie croniche non trasmissibili

- Le **malattie croniche non trasmissibili** (MCNT), malattie cardiovascolari, tumori, malattie respiratorie croniche, diabete, problemi di salute mentale, disturbi muscolo scheletrici restano le principali cause di morte a livello mondiale. Consumo di tabacco, errate abitudini alimentari, insufficiente attività fisica, consumo rischioso e dannoso di alcol, insieme alle caratteristiche dell'ambiente e del contesto sociale, economico e culturale rappresentano i principali fattori di rischio modificabili, ai quali si può ricondurre il 60% del carico di malattia (*Burden of Disease*), in Europa e in Italia. A ciò si aggiunge la carente organizzazione e l'insufficiente ricorso ai programmi di screening organizzato.
- Negli ultimi decenni in Italia, con l'**invecchiamento** progressivo della popolazione, si è registrato un aumento dell'aspettativa di vita, legato al miglioramento delle condizioni sociali e ai progressi nella diagnosi precoce e nella cura delle malattie. La presenza di patologie cronico-degenerative e il dolore fisico che spesso le accompagna condizionano notevolmente le normali attività quotidiane degli anziani, comportando una progressiva riduzione nell'autonomia. Un altro effetto negativo del rapido invecchiamento della popolazione è rappresentato dall'aumento dell'incidenza delle persone affette da demenza che è una delle principali cause di disabilità e non autosufficienza tra gli anziani va affrontata con un approccio di sanità pubblica.

Strategie

- Il controllo delle MCNT richiede un **approccio multidisciplinare**, con un ampio spettro di interventi coordinati a differenti livelli, per prevenirne l'insorgenza, assicurare la precoce presa in carico dei soggetti a rischio o ancora allo stadio iniziale al fine di rallentare la progressione della malattia anche con interventi comportamentali.
- Data la vastità e complessità degli ambiti affrontati è necessario un **approccio combinato e integrato** tra *strategie di comunità* (orientate alla promozione della salute, intersettoriali e per *setting*) e *strategie basate sull'individuo* (individuazione dei soggetti a rischio e delle malattie in fase precoce), seguite da interventi efficaci centrati sulla persona (es. *counseling* individuale sugli stili di vita – LEA, percorsi assistenziali).

- **Strategie basate sull'individuo**

  Interventi finalizzati all'individuazione di condizioni di rischio individuali per le MCNT e all'indirizzo delle persone verso un'adeguata presa in carico sono previsti anche dai **LEA** nell'ambito dell'Area F del Livello Prevenzione collettiva e sanità pubblica che include l'offerta del *counseling* individuale quale prestazione esigibile finalizzata al contrasto ai fattori di rischio delle MCNT. L'offerta del "*counseling* breve", in particolare in presenza di soggetti con fattori di rischio, deve trovare attuazione nei contatti sanitari "opportunistici" (es. Ambulatori, Consultori, Certificazioni, Medici Competenti, Screening oncologici, Punti nascita, Punti vaccinali, ecc.

  L'attività dell'operatore sanitario sul singolo è supportata nel territorio dalla disponibilità di interventi sia di comunità (es. gruppi di cammino, pedibus) sia terapeutici specifici (es. trattamento del tabagismo, consulenza nutrizionale, prescrizione esercizio fisico, ecc.), tali da poter permettere la costruzione di percorsi personalizzati per livello di rischio.

  È compito del **Dipartimento di Prevenzione** programmare, validare e attuare interventi finalizzati all'individuazione di condizioni di rischio per le malattie croniche non trasmissibili e all'indirizzo verso un'adeguata "presa in carico". In questo ambito si inserisce la collaborazione tra i Distretti Sanitari e la medicina di base per l'invio a interventi più o meno strutturati a seconda della condizione e per la modifica dei fattori di rischio.

  In questo contesto operativo, già previsto dal PNP 2014-2019, si colloca il collegamento con il **Piano Nazionale della Cronicità** (PNC). Il PNC, infatti, nel considerare la prevenzione uno degli "elementi chiave" di gestione della cronicità e rimandando agli interventi previsti dal PNP, ne individua due obiettivi principali:

  a. la prevenzione su persone individuate come "a rischio" di patologia cronica, attraverso la definizione di percorsi condivisi e misurabili nei loro esiti intermedi e finali;
  b. la prevenzione delle complicanze proprie delle patologie croniche considerate.

La prevenzione mira principalmente a impedire l'ingresso e l'impianto delle cause morbigene (di natura biologica, chimica, e fisica) nell'organismo e in subordine a bloccare l'insorgenza della malattia o la sua manifestazione quando la causa morbigena si è già insediata nell'organismo, secondo la classica distinzione tra "**prevenzione della comparsa**" a livello eziologico, e "**prevenzione della progressione**" a livello patogenetico (Signorini 1979).

La prima, indicata anche con il termine di ***prevenzione primaria***, ha lo scopo d'impedire la comparsa di malattie, deficit o infortuni; la seconda, o ***prevenzione secondaria***, ha il fine di fermare o rallentare la progressione di una malattia o dei suoi postumi.

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La prevenzione primaria è detta anche *eziologica* perché si rivolge alle cause di malattie e ai fattori che aumentano le probabilità di malattia e che sono prevalentemente fattori ambientali (donde il termine largamente utilizzato di prevenzione ecologica).

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La prevenzione secondaria, invece, interviene quanto più precocemente possibile su processi od orientamenti patologici già in atto per arrestare o quanto meno rallentare l'evoluzione, o, al limite, impedire aggravamenti o complicazioni. Essa si basa sulle indagini di "diagnosi precoce" estesamente applicata all'intera popolazione o a gruppi di popolazione ad alto rischio verso determinate malattie, allo scopo di selezionare non solo i soggetti portatori di forme morbose allo stadio iniziale e asintomatico ma anche i portatori di difetti considerabili come fattori di rischio elevato (stati prepatologici) o non elevato (predisposizioni morbose) di malattia (Bo 1984).

Qualora la malattia si sia chiaramente manifestata, qualsiasi provvedimento che ne prevenga la progressione verso l'infermità, salvaguardando le funzioni residue, è detto di ***prevenzione terziaria*** (prevenzione dell'infermità).

3. PREVENZIONE PRIMARIA E OMT

Contents lists available at ScienceDirect

Preventive Medicine

journal homepage: www.elsevier.com/locate/ypmed

Potential role of complementary and alternative health care providers in chronic disease prevention and health promotion: An analysis of National Health Interview Survey data

Cheryl Hawk [a,*], Harrison Ndetan [b], Marion Willard Evans Jr. [c]

Table 1
National population estimates and percentages of provider-based complementary and alternative medicine practices used by United States adults within the last 12 months, as reported in the 2007 United States National Health Interview Survey.

Complementary and alternative medicine practice	Sample response	National population estimate	Percent (standard error)
Chiropractic or osteopathic manipulation	1855	18,740,095	8.4 (0.3)
Massage	1830	18,068,336	8.1 (0.2)
Acupuncture	344	3,140,932	1.4 (0.1)
Energy healing therapy	143	1,216,241	0.5 (0.06)
Homeopathy	88	861,932	0.4 (0.05)
Naturopathy	82	729,073	0.3 (0.05)
Hypnosis	56	560,819	0.3 (0.04)
Ayurveda	18	213,827	0.1 (0.03)

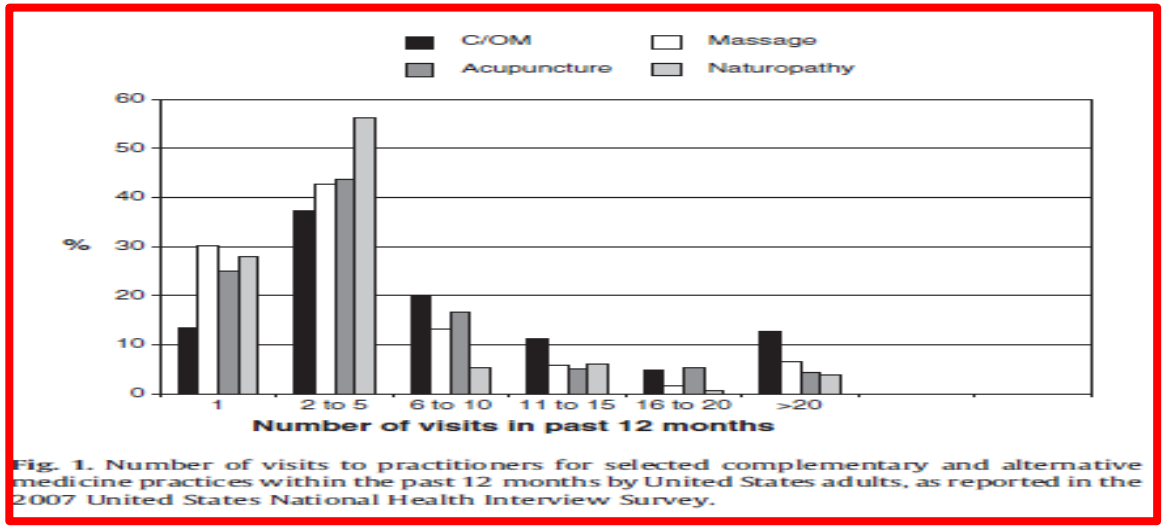


Fig. 1. Number of visits to practitioners for selected complementary and alternative medicine practices within the past 12 months by United States adults, as reported in the 2007 United States National Health Interview Survey.

Table 4

Chronic conditions and modifiable risk factors related to premature death of United States Adult Core Sample respondents who reported using selected complementary and alternative medicine practices on the 2007 United States National Health Interview Survey (NHIS) Adult Complementary and Alternative Medicine sample.

Condition	% of users of each complementary and alternative medicine practice				
	Chiropractic or osteopathic manipulation	Massage	Acupuncture	Naturopathy	All
Overweight[a]	34.6	32.5	24.8	17.7	32.8
No leisure time physical activity[b]	25.5	15.9	27.8	15.5	22.0
Obese[a]	24.7	17.2	20.4	28.2	21.4
High cholesterol[c]	19.9	17.4	22.7	20.0	19.6
Hypertension[c]	20.0	14.4	21.8	27.3	18.1
Current smoker[d]	17.9	16.0	13.2	11.9	17.4
Diabetes or prediabetes[e]	9.7	4.2	8.3	16.2	9.1
Heavy alcohol consumption[f]	6.8	7.3	6.8	8.3	6.8

Table 2. Use of CAM in the Past 12 Months by Number of Chronic Conditions, National Health Interview Survey, 2012

CAM Index, Mean (SE)	Total Study Population (n = 33,557)		0 Chronic Conditions (n = 13,790)		1 Chronic Condition (n = 7,427)		≥2 Chronic Conditions (n = 12,340)		P[b]
	Mean[a]	95% CI (SE)	Mean[a]	95% CI (SE)	Mean[a]	95% CI (SE)	Mean[a]	95% CI (SE)	
All CAM	1.8	1.8–1.8 (0.02)	1.5	1.5–1.6 (0.02)	1.9	1.9–2.0 (0.03)	2.0	2.0–2.1 (0.02)	<.001
Excluding multivitamins	1.3	1.2–1.3 (0.01)	1.0	1.0–1.1 (0.02)	1.4	1.3–1.4 (0.02)	1.5	1.4–1.5 (0.02)	<.001
Excluding multivitamins, vitamins and minerals	0.6	0.6–0.7 (0.01)	0.6	0.5–0.6 (0.01)	0.7	0.7–0.7 (0.02)	0.7	0.6–0.7 (0.02)	<.001
Specific CAM therapies	N	% (CI)[a]	n	% (CI)[a]	n	% (CI)[a]	n	% (CI)[a]	P[b]
Multivitamin or multimineral	17,493	52.7 (52.0–53.5)	6,628	48.4 (47.2–49.6)	3,985	54.6 (53.2–56.0)	6,880	57.1 (55.9–58.2)	<.001
Vitamin	11,662	34.8 (34.0–35.6)	3,751	27.6 (26.6–28.6)	2,670	36.8 (35.3–38.3)	5,241	42.8 (41.5–44.1)	<.001
Mineral	9,891	28.4 (27.7–29.2)	2,979	21.0 (20.1–21.9)	2,225	29.3 (27.9–30.8)	4,687	37.5 (36.3–38.7)	<.001
Nonvitamin or herbal therapies	5,974	17.9 (17.2–18.6)	1,925	13.6 (12.8–14.4)	1,431	20.0 (18.8–21.3)	2,618	22.0 (20.8–23.1	<.001
Mind–body therapy	4,127	12.5 (11.9–13.0)	1,771	12.8 (12.1–13.6)	1,006	13.9 (12.9–15.0)	1,350	11.0 (10.3–11.7)	<.001
Chiropractic or osteopathic manipulation	2,993	9.1 (8.7–9.5)	991	7.5 (6.9–8.1)	776	10.7 (9.8–11.6)	1,226	10.1 (9.4–10.8)	<.001
Massage	2,951	8.8 (8.4–9.2)	1,094	7.8 (7.2–8.4)	716	9.4 (8.6–10.3)	1,141	9.7 (9.0–10.4)	<.001
Movement therapy	2,162	6.6 (6.2–7.0)	974	7.2 (6.5–7.8)	584	7.8 (7.1–8.5)	604	5.0 (4.5–5.6)	<.001
Special diets	1,027	3.0 (2.8–3.3)	341	2.4 (2.0–2.7)	266	3.4 (2.9–4.0)	420	3.6 (3.1–4.1)	<.001
Homeopathy	718	2.2 (2.0–2.4)	270	2.1 (1.8–2.4)	185	2.6 (2.1–3.1)	263	2.1 (1.8–2.5)	.1
Acupuncture	604	1.6 (1.4–1.8)	196	1.3 (1.1–1.5)	142	1.8 (1.4–2.1)	266	1.9 (1.6–2.2)	.002
Naturopathy	276	0.7 (0.6–0.8)	96	0.6 (0.5–0.8)	75	0.7 (0.5–1.0)	105	0.9 (0.7–1.0)	.15
Traditional healing	170	0.4 (0.4–0.5)	67	0.5 (0.3–0.6)	35	0.4 (0.2–0.5)	68	0.5 (0.3–0.6)	.70
Craniosacral therapy	109	0.3 (0.2–0.4)	37	0.3 (0.2–0.4)	25	0.2 (0.1–0.3)	47	0.3 (0.2–0.5)	.50
Ayurvedic medicine	96	0.3 (0.2–0.3)	45	0.3 (0.2–0.5)	25	0.2 (0.1–0.3)	26	0.2 (0.1–0.3)	.10

DE GRUYTER J Osteopath Med 2021; 121(5): 513–520

Pediatrics Brief Report

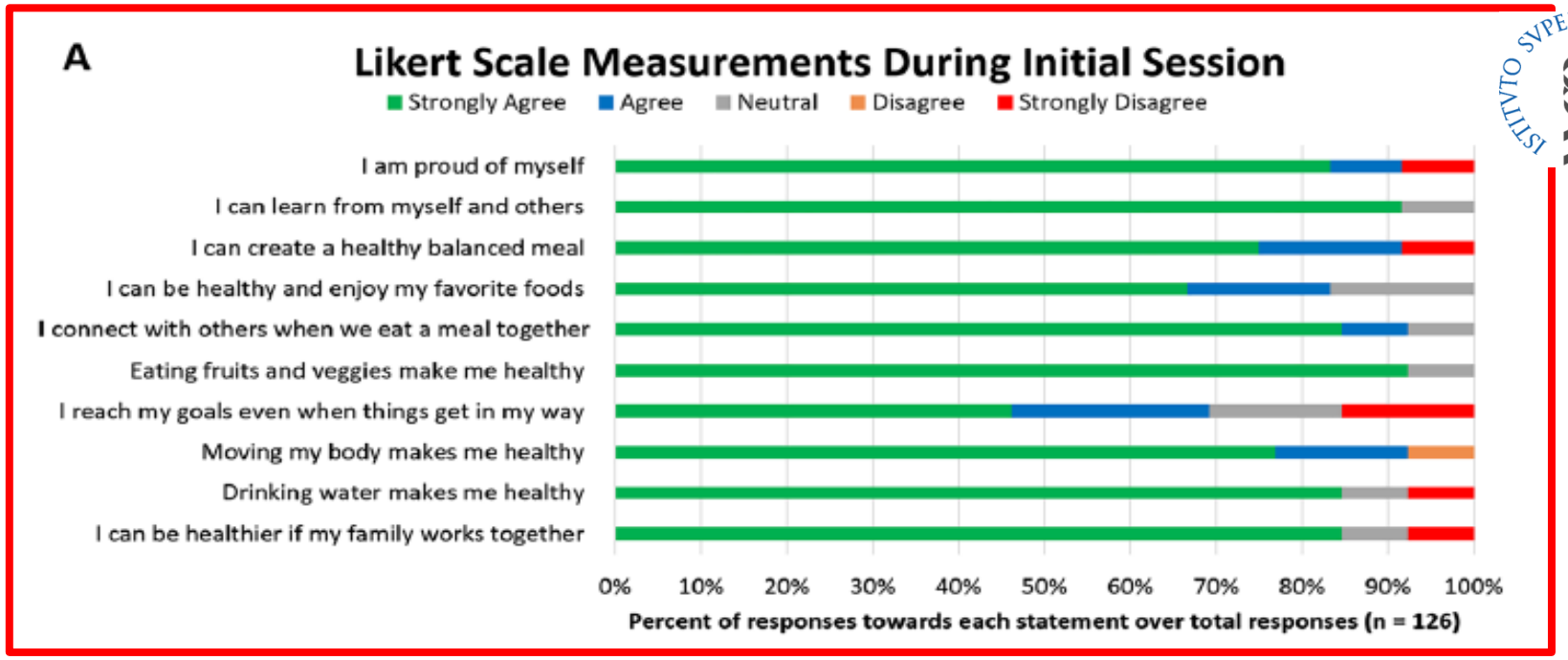
Madeline Bach, OMS IV, Sonia Shenoi*, OMS I, Kathleen Winger, OMS III and Tami Hendriksz, DO

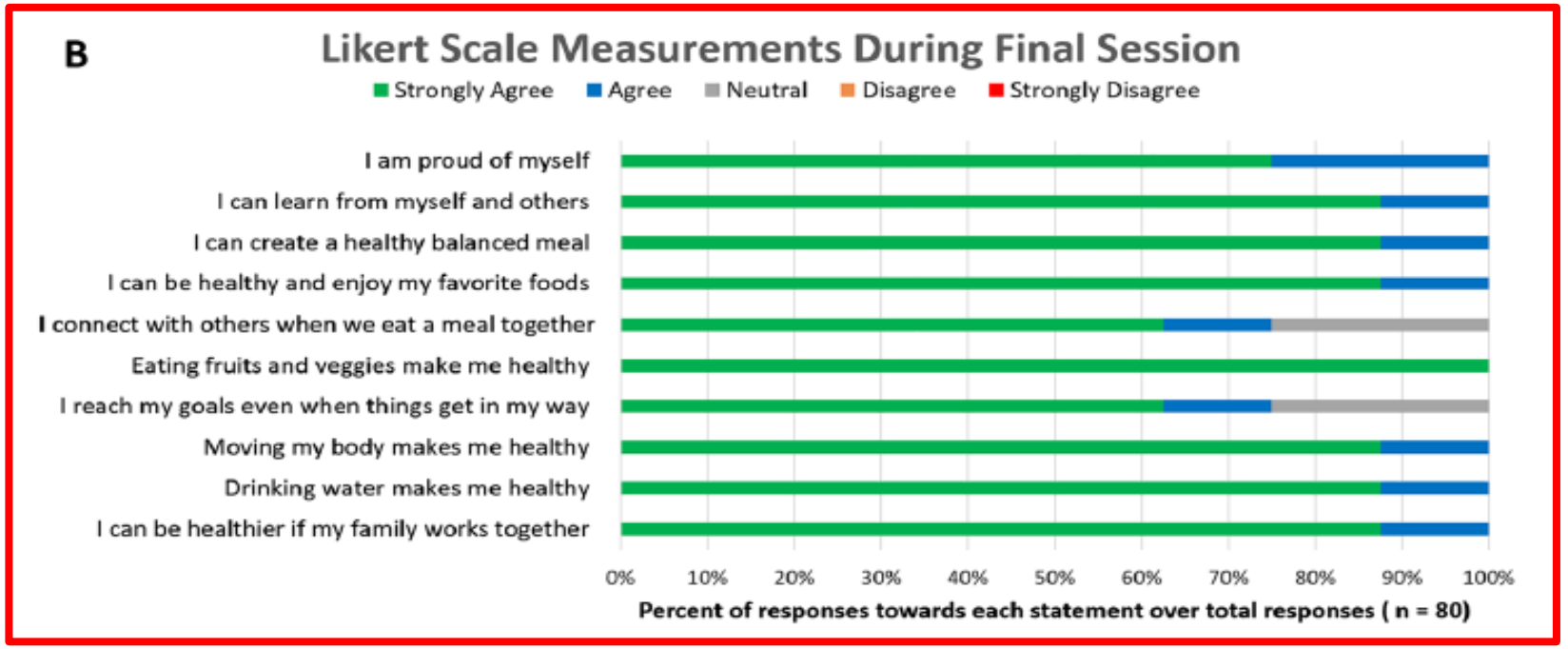
Healthier together: a pilot study on the implementation of a novel family centered pediatric obesity prevention program

Methods: This was a small scale evaluation of the Project HAPPY pilot program, conducted after school at a public elementary campus in Solano County, California. From April 2018 to May 2018, first year medical students from Touro University California College of Osteopathic Medicine served as "family navigators," guiding participants through a 5 week curriculum of didactic lessons, cooking demonstrations, and physical exercises. Eligibility requirements for Project HAPPY included basic English proficiency, confirmed enrollment of at least one child at the elementary school, and willingness to attend all study sessions. The primary outcome evaluated was a shift in attitude toward individual health. Changes in body mass

Results: Initial study participants included seven families, consisting of elementary school students with their siblings and parents (n=27). Only four families (n=13) completed the entire 5 week intervention. Over the course of the study, survey results of participants' attitudes regarding health suggested a positive trend toward self efficacy, while BMI appeared stable or increased. Partic-

OBESITA'


A
Likert Scale Measurements During Initial Session
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree
I am proud of myself
I can learn from myself and others
I can create a healthy balanced meal
I can be healthy and enjoy my favorite foods
I connect with others when we eat a meal together
Eating fruits and veggies make me healthy
I reach my goals even when things get in my way
Moving my body makes me healthy
Drinking water makes me healthy
I can be healthier if my family works together
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of responses towards each statement over total responses (n = 126)


B
Likert Scale Measurements During Final Session
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree
I am proud of myself
I can learn from myself and others
I can create a healthy balanced meal
I can be healthy and enjoy my favorite foods
I connect with others when we eat a meal together
Eating fruits and veggies make me healthy
I reach my goals even when things get in my way
Moving my body makes me healthy
Drinking water makes me healthy
I can be healthier if my family works together
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of responses towards each statement over total responses (n = 80)

SUPPLEMENT ARTICLE

Leveraging the Principles of Osteopathic Medicine to Improve Diabetes Outcomes Within a New Era of Health Care Reform

Carman A. Ciervo, DO
Jay H. Shubrook, DO
Paul Grundy, MD, MPH

DIABETE

First introduced conceptually decades before the passage of the Patient Protection and Affordable Care Act, the patient-centered medical home (PCMH) has evolved as a foundational element within the larger health care system or medical neighborhood, highlighting a coordinated and comprehensive disease management approach centered on intensive primary care interventions. More recently, in the wake of health care reform, accountable care organizations (ACOs) have been established to help health plans, physicians, hospitals, home health care practitioners, and other health care providers better coordinate care through an incentive-based payment arrangement. Osteopathic medicine is poised to proactively capitalize on these emerging health care models, with the anticipated end result of improved quality of care and reduced health care costs. As such, osteopathic physicians involved in the prevention and care of patients with type 2 diabetes mellitus need to identify models, best practices, and solutions to advance the medical neighborhood.

J Am Osteopath Assoc. 2015;115(4 suppl 1):eS8-eS19
doi:10.7556/jaoa.2015.058

REVIEW

Evidence for the Prevention of Type 2 Diabetes Mellitus

Jay H. Shubrook, DO; William Chen, DO; Alegria Lim, OMS IV

From the Touro University California College of Osteopathic Medicine in Vallejo.

Disclaimer: Dr Shubrook, a *JAOA* associate editor, was not involved in the editorial review or decision to publish this article.

Financial Disclosures: None reported.

Support: None reported.

Address correspondence to Jay H. Shubrook, DO, 1310 Club Dr, Mare Island, Vallejo,

Type 2 diabetes mellitus (T2DM) is a common chronic metabolic condition. Before receiving this diagnosis, persons typically have a long period of pre-diabetes. There is good evidence that T2DM can often be prevented or delayed by means of lifestyle interventions (39%-71%), medications (28%-79%), or metabolic surgery (75%). However, despite consistent data demonstrating their efficacy, these tools are underused, and knowledge about them among primary care physicians is limited. In an effort to engage physicians in addressing this public health crisis more effectively, the authors reviewed the evidence that T2DM can be prevented or delayed in persons at risk.

J Am Osteopath Assoc. 2018;118(11):730-737
doi:10.7556/jaoa.2018.158

Keywords: bariatric surgery, lifestyle medicine, obesity, prediabetes, type 2 diabetes mellitus

Table 1.
Lifestyle Interventions to Prevent or Delay Type 2 Diabetes Mellitus

Study	Country	Patients, No.	Baseline BMI	Intervention Period, y	RRR, %	NNT
The DPP Research Group (DPP)[6,7]	United States	3234	34.0	2.8	58	21
Eriksson et al (DPS)[8]	Finland	523	31	4	39	22
Pan et al (Da Qing)[9]	China	577	25.8	6	51	30

Abbreviations: BMI, body mass index; DPP, Diabetes Prevention Program; DPS, Diabetes Prevention Study; NNT, number needed to treat; RRR, relative risk reduction.

SPORT

Osteopathic Manipulative Treatment and Cardiovascular Autonomic Parameters in Rugby Players: A Randomized, Sham-Controlled Trial

Luca Carnevali, PhD,[a, b] Francesco Cerritelli, PhD,[c] Franco Guolo, DO,[b] and Andrea Sgoifo, PhD[a, b]

ABSTRACT

Objective: The purpose of this study was to investigate the effects of osteopathic manipulative treatment (OMT) on cardiovascular autonomic parameters after a rugby match.
Methods: Resting and reactivity (ie, response to orthostasis) measures of mean arterial pressure, heart rate, and heart rate variability were assessed in 23 male players after a single session of OMT, both 18 to 20 hours after a rugby match and in a corresponding no-match condition, in a randomized, sham-controlled, crossover design.
Results: Signs of reduced heart rate variability and elevated mean arterial pressure and heart rate were found 18 to 20 hours after a rugby match compared with the no-match condition. A significant increase in heart rate variability and a significant reduction in mean arterial pressure were observed after OMT in both the after-match and no-match conditions. Heart rate and heart rate variability responses to orthostasis were not affected by previous match competition, but were significantly larger after OMT compared with sham treatment.
Conclusion: This study suggests the presence of cardiovascular autonomic alterations in rugby players after a competitive match, which may be indicative of prolonged fatigue and incomplete recovery. In these players, favorable changes in cardiovascular autonomic parameters were observed following a single session of OMT. (J Manipulative Physiol Ther 2021;44:319-329)
Key Indexing Terms: *Heart Rate; Manipulation, Osteopathic; Arterial Pressure; Autonomic Nervous System; Cardiovascular System; Fatigue; Homeostasis*

ORIGINAL CONTRIBUTION

Preventive Osteopathic Manipulative Treatment and Stress Fracture Incidence Among Collegiate Cross-Country Athletes

Lynn F. Brumm, DO; Carrie Janiski, DO, MS, ATC; Jenifer L. Balawender, DO; and Adam Feinstein, DO

From the Department of Family and Community Medicine (Drs Brumm and Janiski) and the Department of Osteopathic Manipulative Medicine (Dr Feinstein) at the Michigan State University College of Osteopathic Medicine in East Lansing; the Department of Osteopathic Manipulative Medicine at the University of New England College of Osteopathic Medicine in Biddeford, Maine (Dr Janiski); and the Department of Family Medicine at Michigan State University College of Human Medicine in East Lansing (Dr Balawender). At the time of the present study, Dr Janiski was at the Department of Family and Community Medicine at the Western Michigan University School of Medicine in Kalamazoo and the Department of Family Medicine at Michigan State University College of Human Medicine in East Lansing.

Financial Disclosures: None reported.

Address correspondence to Carrie Janiski, DO, MS, ATC, University of New England College of Osteopathic Medicine, Department of Osteopathic Manipulative Medicine, Alfond Center, 11 Hills Beach Rd, Biddeford, ME 04005-9526.

E-mail: janiskic@msu.edu

Submitted July 15, 2012; final revision received January 21, 2013; accepted January 28, 2013.

Context: Stress fractures are common among athletes, particularly distance runners, with many theories regarding the etiologic process of stress fractures and various studies identifying risk factors or suggesting preventive techniques. To our knowledge, no previous studies have discussed the possible causative effects of somatic dysfunction or the preventive capabilities of osteopathic manipulative treatment (OMT).

Objective: To apply a preventive OMT protocol for cross-country athletes to reduce the incidence of stress fractures.

Design: Cohort study.

Methods: Examinations of cross-country athletes at an NCAA (National Collegiate Athletic Association) Division I university were performed by supervising physician–examiners and first- and second-year osteopathic medical students during several consecutive academic years. Athletes re-enrolled in the study each year they continued to be eligible. The intervention included osteopathic structural examination and OMT that focused on somatic dysfunction identified in the pelvis, sacrum, and lower extremities.

Results: More than 1800 participant examinations were performed on 124 male and female participants by 3 supervising physician–examiners and 141 osteopathic medical students over the course of 5 consecutive academic years (2004-2005 to 2008-2009). Data from these academic years were compared with data from the previous 8 academic years (1996-1997 to 2003-2004). An average of 20 new participants enrolled yearly. The number of annual stress fractures per team ranged from 0 to 6 for male participants and 1 to 6 for female participants. The cumulative annual incidence of stress fractures for male participants demonstrated a statistically significant decrease from 13.9% (20 of 144) before intervention to 1.0% (1 of 105) after intervention, resulting in a 98.7% relative reduction in stress-fracture diagnosis ($P=.019$). The cumulative annual incidence for female participants showed a minimal decrease from 12.9% (23 of 178) before intervention to 12.0% (17 of 142) after intervention, an 8.5% relative reduction in stress-fracture diagnosis ($P=.671$). The cumulative annual incidence of all participants decreased from 13.4% (43 of 322) before intervention to 7.3% (18 of 247) after intervention, a 45% relative reduction in stress-fracture diagnosis ($P=.156$).

Conclusion: There was a statistically significant decrease in the cumulative annual incidence of stress fractures in male, but not female, cross-country athletes after receiving OMT.

J Am Osteopath Assoc. 2013;113(12):882-890
doi:10.7556/jaoa.2013.066

4. PREVENZIONE SECONDARIA E OMT

Complementary Therapies in Clinical Practice 46 (2022) 101507

Contents lists available at ScienceDirect

Complementary Therapies in Clinical Practice

journal homepage: www.elsevier.com/locate/ctcp

Results of a feasibility randomised controlled trial of osteopathy on neck-shoulder pain in computer users

Rui José Santiago [a,b,c,*], Jorge Eduardo Esteves [c,d,e,f], João Santos Baptista [a,g],

ABSTRACT

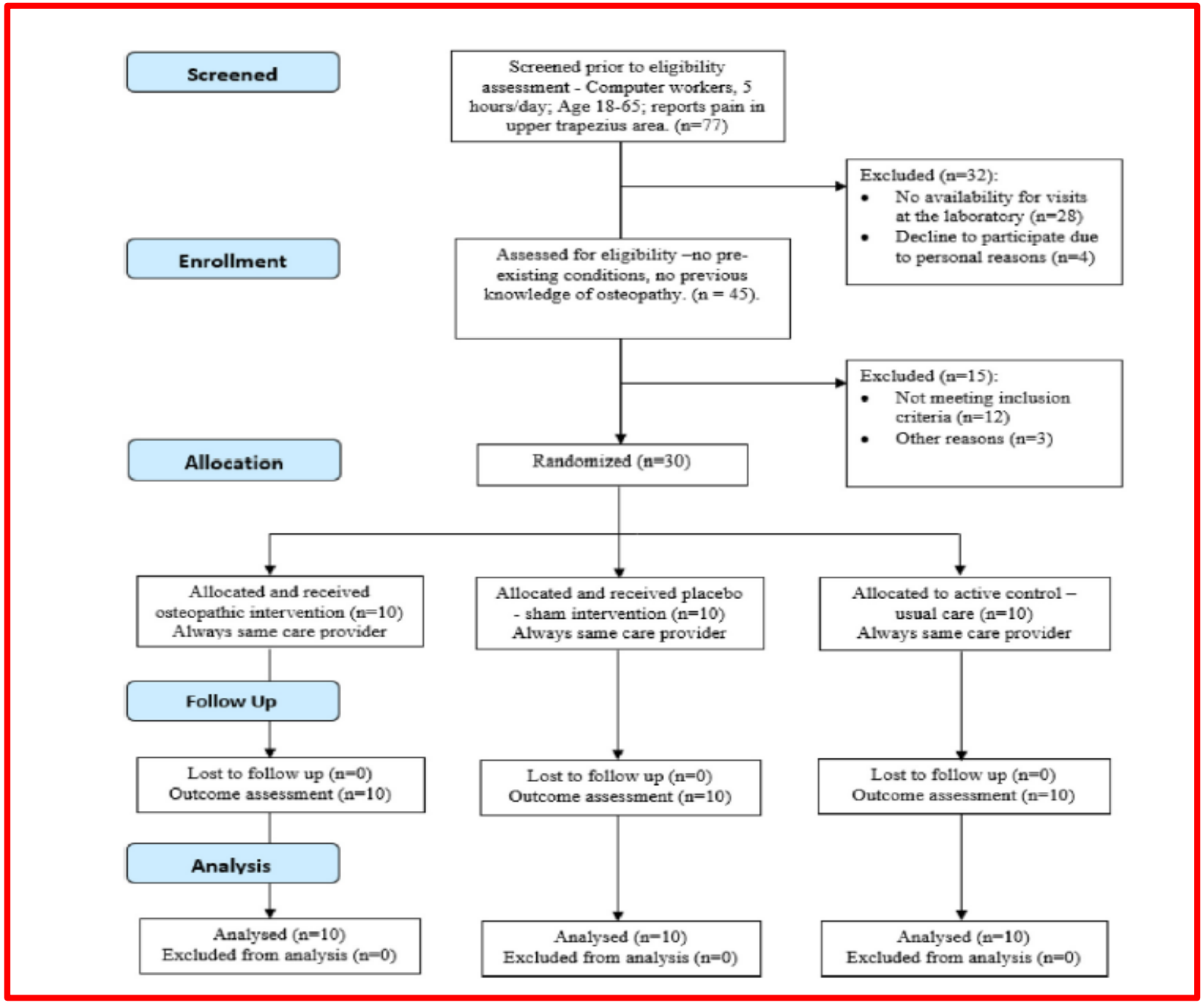
Background: Computer use is a well-known source of chronic pain, leading to absenteeism and reduced productivity and well-being. This study evaluated the feasibility of conducting a full-scale randomised controlled trial. Several methodological variables defined trial feasibility.

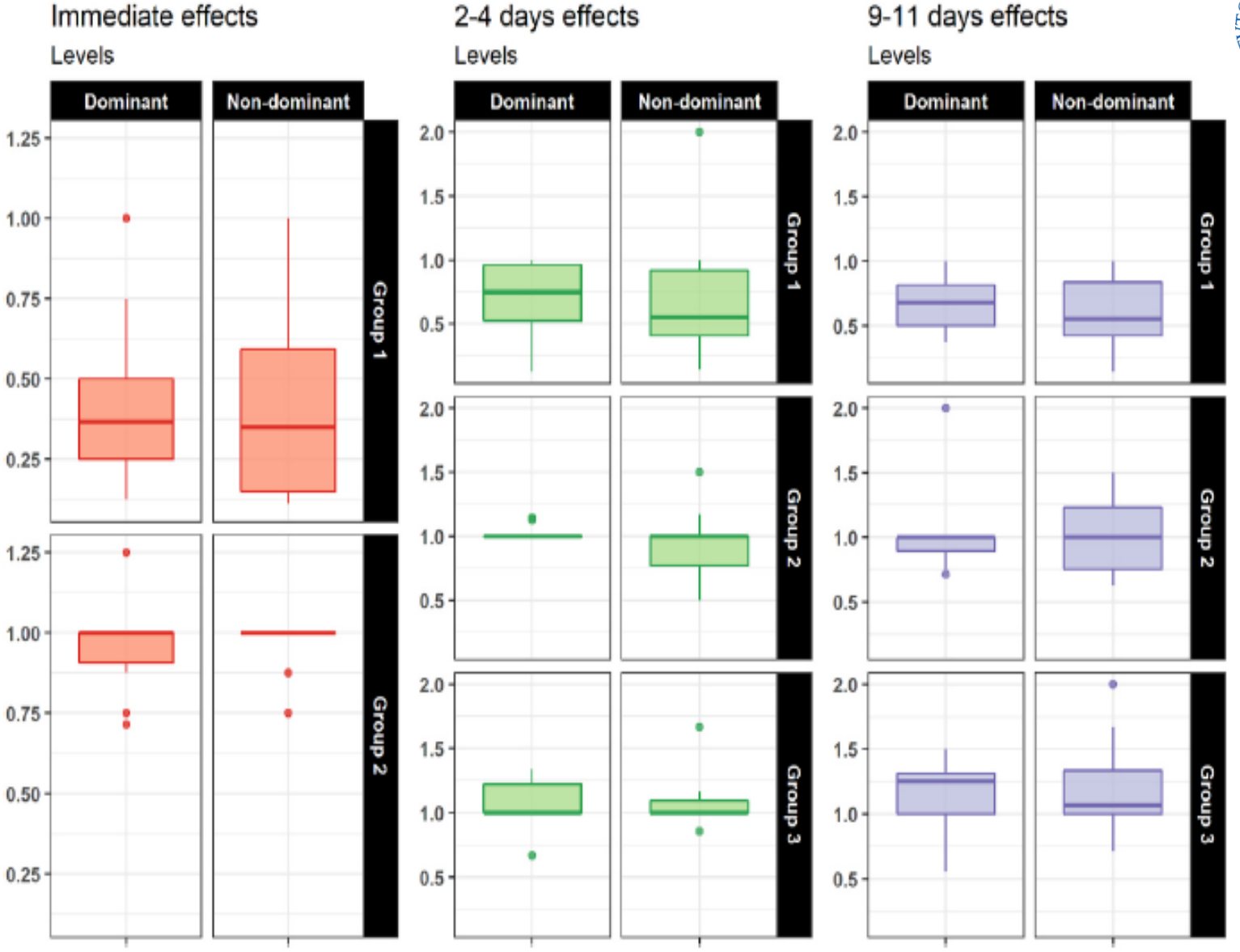
Materials and methods: Thirty adults, daily computer users reporting pain, were recruited. Data collection took place at LABIOMEP. Participants were randomised into 1 of 3 parallel groups and received either osteopathic, sham or no treatment. Only the volunteers were blind to group assignments. The primary objective was to study the feasibility and acceptability of the protocol.

Results: Of 77 participants interested, 30 were included and randomised into three groups of ten. All participants concluded the study, and all the data was analysed. The feasibility outcomes were deemed appropriate. No adverse events or severe side effects were reported or identified.

Conclusion: Studying the efficacy of osteopathic consultation on computer users by conducting an RCT is feasible and safe. With adjustments, a full-scale study can be designed.

Trial registration: ClinicalTrials.gov with the identifier: NCT04501575. Date registered August 06, 2020.


Screened
Screened prior to eligibility assessment - Computer workers, 5 hours/day; Age 18-65; reports pain in upper trapezius area. (n=77)
Excluded (n=32):
No availability for visits at the laboratory (n=28)
Decline to participate due to personal reasons (n=4)
Enrollment
Assessed for eligibility –no pre-existing conditions, no previous knowledge of osteopathy. (n = 45).
Excluded (n=15):
Not meeting inclusion criteria (n=12)
Other reasons (n=3)
Allocation
Randomized (n=30)
Allocated and received osteopathic intervention (n=10) Always same care provider
Allocated and received placebo - sham intervention (n=10) Always same care provider
Allocated to active control – usual care (n=10) Always same care provider
Follow Up
Lost to follow up (n=0) Outcome assessment (n=10)
Lost to follow up (n=0) Outcome assessment (n=10)
Lost to follow up (n=0) Outcome assessment (n=10)
Analysis
Analysed (n=10) Excluded from analysis (n=0)
Analysed (n=10) Excluded from analysis (n=0)
Analysed (n=10) Excluded from analysis (n=0)



Graphic 2. NRS immediate, 2–4 days short-term, and 9–11 days short-term days effects results.

3. PREVENZIONE TERZIARIA OMT

Osteopathic Primary Care of Patients With Inflammatory Bowel Disease: A Review

Jack D. Bragg, DO

Financial Disclosures: None reported.

Support: None reported.

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E-mail: braggj@health.missouri.edu

Submitted September 6, 2013; revision received January 7, 2014; accepted January 28, 2014.

Ulcerative colitis and Crohn disease are relatively common inflammatory diseases of the gastrointestinal tract that have unknown causes. A combination of abnormalities in genetics, the immune system, and the microbiome of the gut may cause inflammatory bowel disease (IBD). The majority of patients with IBD are in their late teens or early twenties. Most present to their primary care physician for a diagnosis. Although gastroenterologists and surgeons do most of the endoscopy and management of IBD, these patients require a great deal of health maintenance that many never receive. Osteopathic primary care physicians can play a pivotal role in the care of patients with IBD by understanding what areas of the body are affected by the disease and what screening and monitoring are needed to keep patients healthy with the highest quality of life possible.

J Am Osteopath Assoc. 2014;114(9):695-701
doi:10.7556/jaoa.2014.139

Table.
Diagnosis of Iron Deficiency and Anemia[a] in Patients With Inflammatory Bowel Disease

Measure	Iron Deficiency	Iron Deficiency + ACD	ACD
Inflammation	Y or N	Y	Y
Trasferrin saturation	<20%	<20%	<20%
Mean corpuscular hemoglobin	<27 pg	NA	NA
Ferritin, ng/mL	<30	30-100	>100

[a] Anemia defined as hemoglobin level <12 g/dL in females and <13 g/dL in males.

Abbreviation: ACD, anemia of chronic disease.

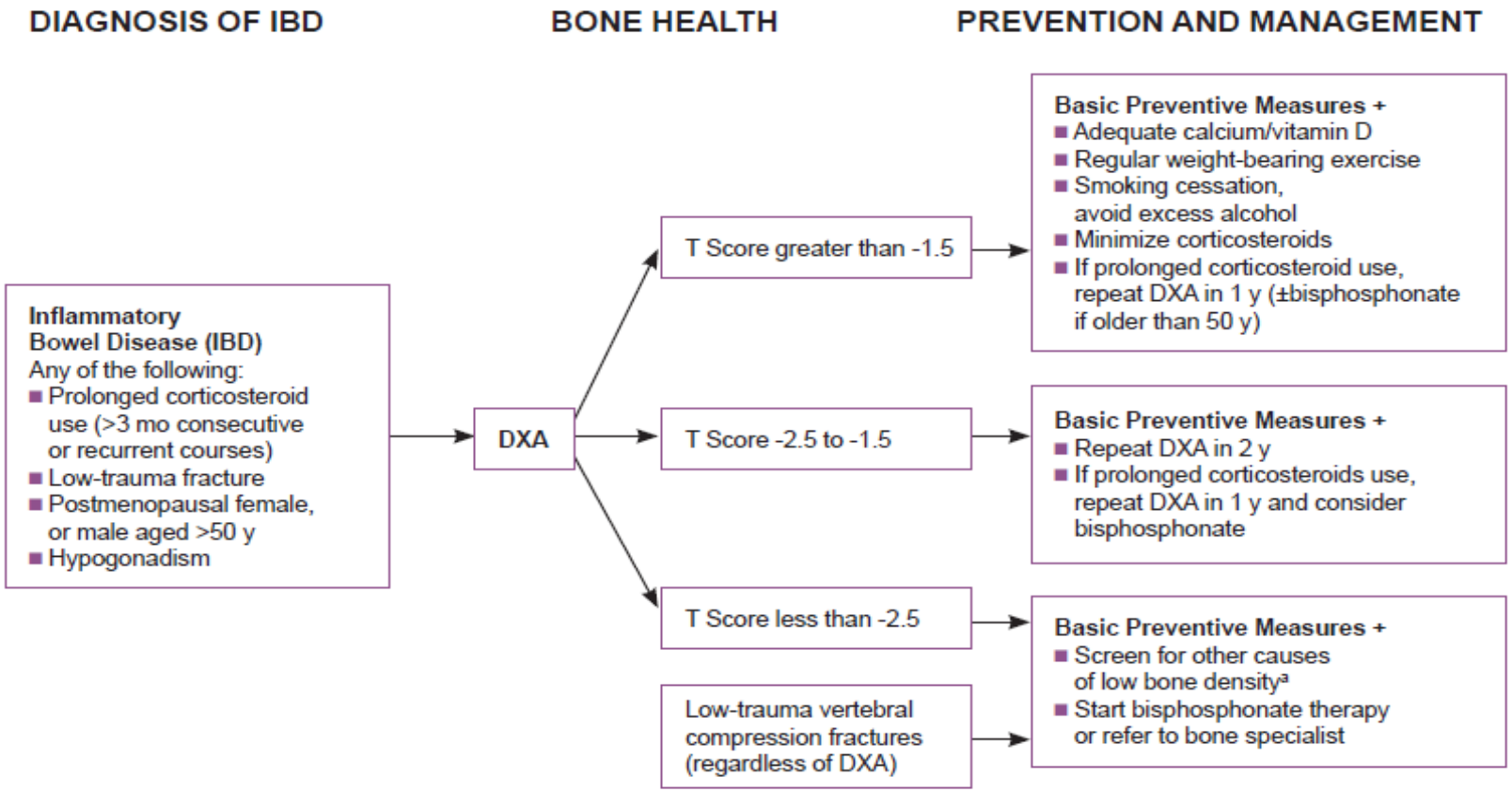


Figure.
Approach for prevention and management of osteoporosis in patients with inflammatory bowel disease (IBD).
Modified with permission from Bernstein et al.[24]

[a] Screening tests for other causes of low bone density include complete blood cell count, serum calcium alkaline phosphatase, creatinine, 25-hydroxyvitamin D, protein electrophoresis (optional), and testosterone (in males).
Abbreviation: DXA, dual-energy x-ray absorptiometry.

JAOA ORIGINAL CONTRIBUTION

Osteopathic Evaluation and Manipulative Treatment in Reducing the Morbidity of Otitis Media: A Pilot Study

Brian F. Degenhardt, DO
Michael L. Kuchera, DO

Objective: To study the effects of osteopathic manipulative treatment in routine pediatric care for children with recurrent acute otitis media.

Study Design: Pilot cohort study with 1-year posttreatment follow-up. At follow-up, subjects' parents or legal guardians and their referring and/or family physicians were contacted to determine recurrence of otitis media since intervention.

Subjects: A referred and volunteer sample of pediatric patients ranging in age from 7 months to 35 months with a history of recurrent otitis media (N=8).

Intervention: For 3 weeks, all subjects received weekly osteopathic structural examinations and osteopathic manipulative treatment. This intervention was performed concurrently with traditional medical management.

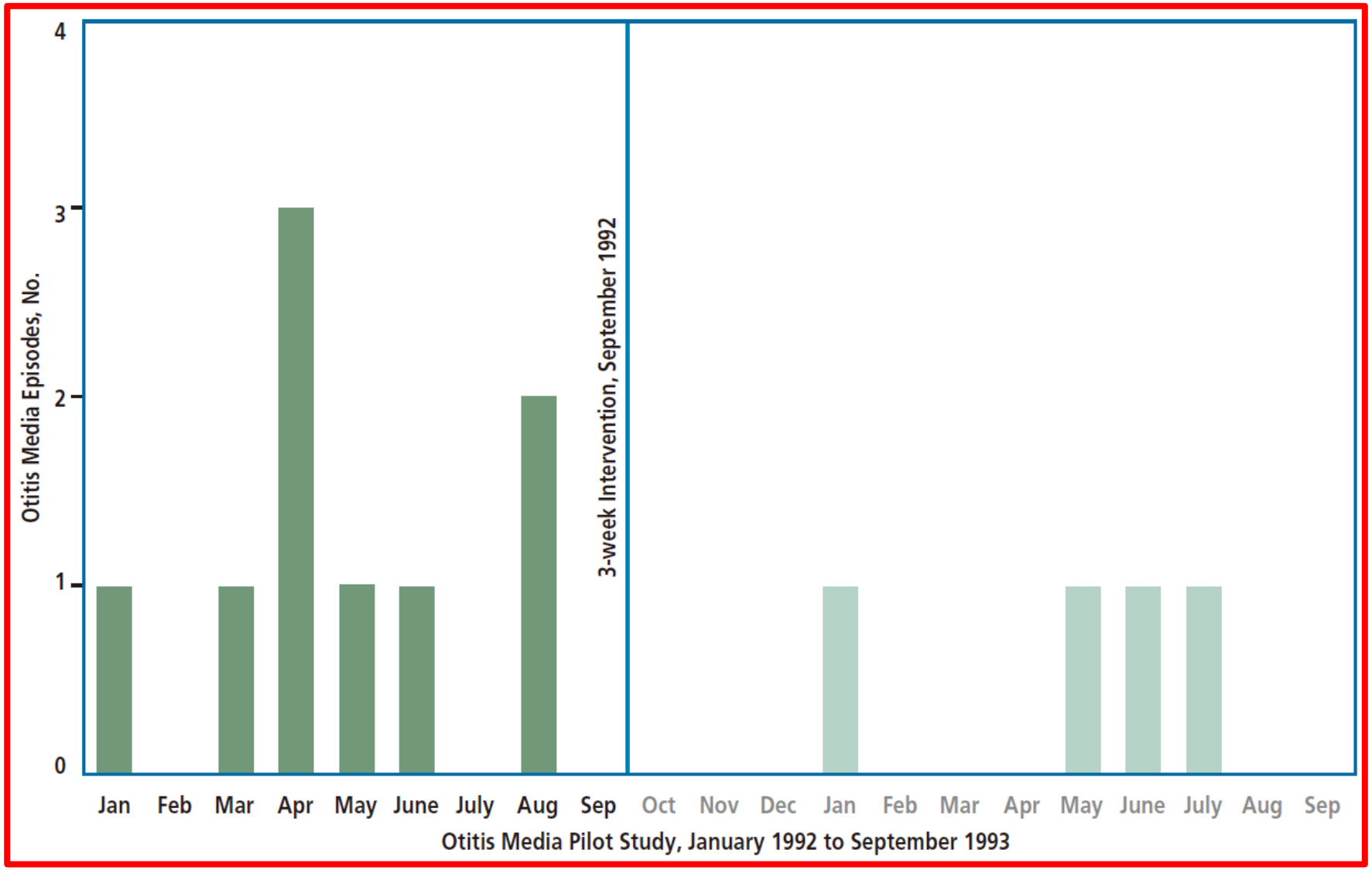
Results: Five (62.5%) subjects had no recurrence of symptoms. Of the three remaining subjects in this cohort, one had a bulging tympanic membrane, another had four episodes of otitis media, and the last underwent surgery after recurrence at 6 weeks posttreatment. Closer analysis of the posttreatment course of the last two subjects indicates that there may have been a clinically significant decrease in morbidity for a period of time after intervention.

Conclusion: The present study indicates that osteopathic manipulative treatment may change the progression of recurrent otitis media, a finding that supports the need for additional research in this area.

Table 2
Otitis Media Pilot Study:
Structural Findings and Treatment Response

Subject and Somatic Dysfunctions Noted at Initial Visit	Somatic Dysfunction*						Posttreatment Recurrence Within 12 Months
	Visit 2			Visit 3			
	Resolved	Improved	Unresolved	Resolved	Improved	Unresolved	Acute Episodes, No.
■ **A**							**0**
□ Head (base)		X		X			
– Sphenobasilar synchondrosis	X			X			
□ Ribs (upper)		X			X		
□ Sacrum	X			X			
■ **B**							**0**
□ Head (base, bilateral)		X		X			
□ Ribs (mid-level, right side)	X			X			
□ Pelvis (right side)		X		X			
■ **C**							**0**†
□ Head (base)		X			X		
– Sphenobasilar synchondrosis		X		X			
□ Thorax (upper, right side)	X			X			
□ Lower extremity (knee, right side)	X			X			
■ **D**							**1**‡
□ Head (base bilateral)		X		X			
□ Ribs (upper bilateral)		X			X		
□ Sacrum			X	X			
■ **E**							**0**
□ Head (base, bilateral)			X		X		
□ Ribs (mid-level)		X		X			
□ Pelvis	X			X			
■ **F**							**1**§
□ Head (anterior, right side)		X			X		
□ Head (base, right side)			X		X		
– Sphenobasilar synchondrosis	X		X				
■ **G**							**0**
□ Head (face)		X		X			
□ Head (base, right side)		X		X			
□ Ribs (mid-level, left side)	X			X			
□ Pelvis (left side)		X			X		
■ **H**							**4**
□ Head (anterior, right side)	X			X			
□ Head (base, right side)		X			X		
□ Pelvis			X	X			
□ Lower extremity (knee)	X			X			

* For each somatic dysfunction noted in the first patient visit, X denotes the status of the dysfunction in subsequent visits.
† For Subject C, only an 8-month follow-up evaluation of the patient's medical record was possible because the subject was lost to follow-up.
‡ After a recurrence at 6 weeks after intervention, Subject D underwent tonsillectomy, adenoidectomy, and myringotomy with ventilation tube placement.
§ Subject F had one acute otitis media episode of a bulging tympanic membrane, for which he received one course of antibiotics.


Otitis Media Episodes, No.
4
3
2
1
0
3-week Intervention, September 1992
Jan
Feb
Mar
Apr
May
June
July
Aug
Sep
Oct
Nov
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Jan
Feb
Mar
Apr
May
June
July
Aug
Sep
Otitis Media Pilot Study, January 1992 to September 1993

Journal of Bodywork & Movement Therapies (2011) 15, 68–74

available at www.sciencedirect.com

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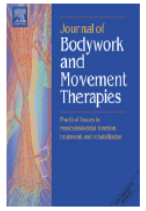


OMT EFFECT IN ESSENTIAL HYPERTENSION

Osteopathic manipulation as a complementary treatment for the prevention of cardiac complications: 12-Months follow-up of intima media and blood pressure on a cohort affected by hypertension

Francesco Cerritelli, MS, DO [a,b,*], Fabrizio Carinci, MS [a], Gianfranco Pizzolorusso, DO [a,b], Patrizia Turi, DO [a,b], Cinzia Renzetti, MD, DO [b], Felice Pizzolorusso, DO [b], Francesco Orlando, DO [b], Vincenzo Cozzolino, MD, DO [b], Gina Barlafante, MD, DO [b]

Summary *Background:* Aim of the present study was to investigate the association between osteopathic treatment and hypertension.

Methods: The design was a non-randomized trial including consecutive subjects affected by hypertension and vascular alterations, using pre–post differences in intima-media thickness, systolic and diastolic blood pressure as primary endpoints.

Statistical analysis was based on univariate *t* tests and multivariate linear regression.

Results: A total of $N = 31$ out of $N = 63$ eligible subjects followed by a single cardiologist received osteopathic treatment in addition to routine care. Clinical measurements were recorded at baseline and after 12 months.

Univariate analysis found that osteopathic treatment was significantly associated to an improvement in all primary endpoints. Multivariate linear regression showed that, after adjusting for all potential confounders, osteopathic treatment was performing significantly better for intima-media thickness (delta between pre–post differences in treated and control groups: −0.517; 95% c.i.: −0.680, −0.353) and systolic blood pressure (−4.523; −6.291, −2.755), but not for diastolic blood pressure.

Conclusion: Our study shows that, among patients affected by cardiovascular disorders, osteopathic treatment is significantly associated to an improvement in intima-media and systolic blood pressure after one year. Multicentric randomized trials of adequate sample size are needed to evaluate the efficacy of OMT in the treatment of hypertension.

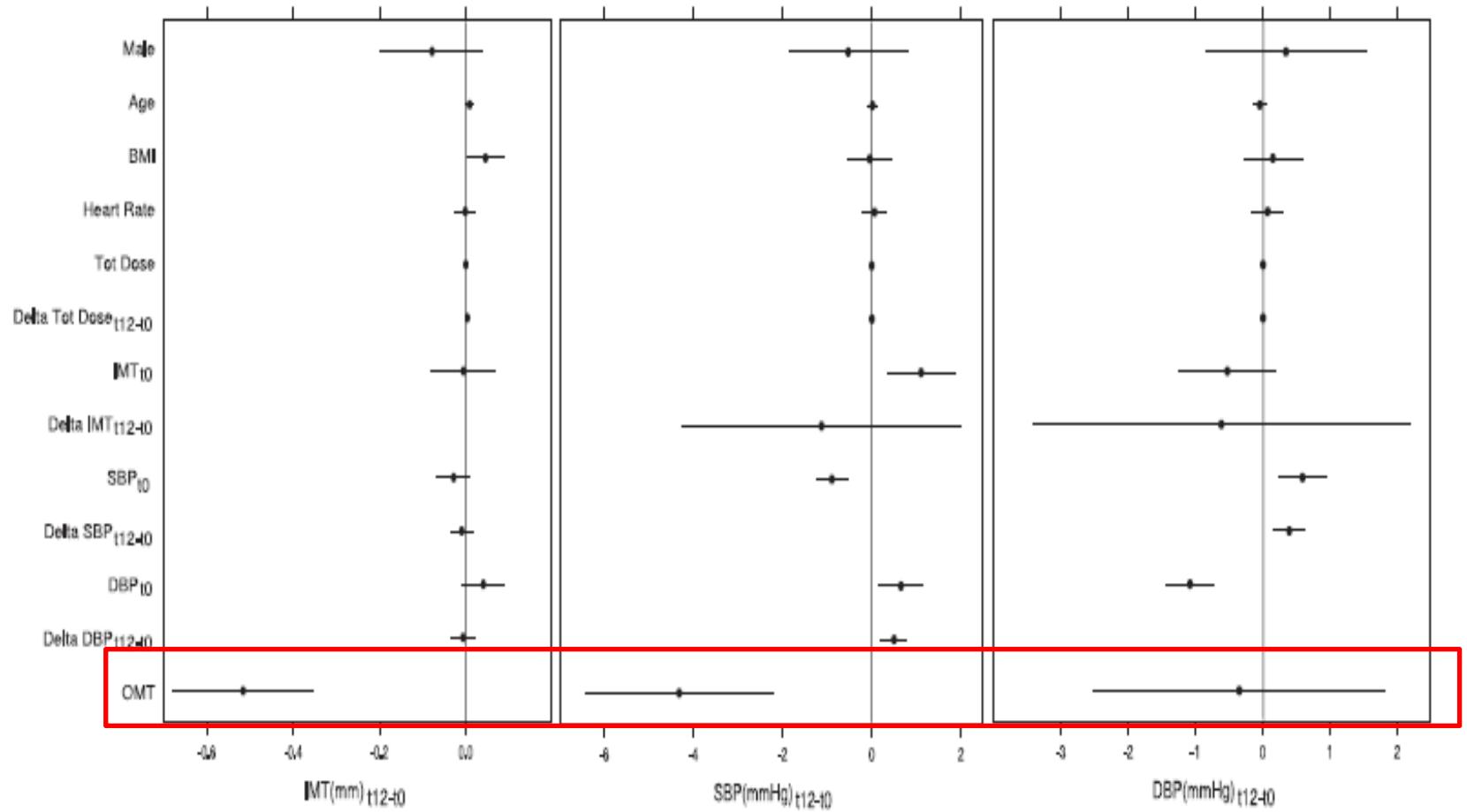


Figure 2 Figure describes results from multivariate linear regression that showed an independent role of OMT on primary outcomes. BMI = body mass index, IMT = intima media thickness, SBP = systolic blood pressure, DBP = diastolic blood pressure, OMT = osteopathic manipulative treatment.

Role of Osteopathic Structural Diagnosis and Osteopathic Manipulative Treatment for Diabetes Mellitus and Its Complications

Amy W. Johnson, DO
Jay H. Shubrook Jr, DO

From the Department of Internal Medicine at Indiana University in Indianapolis (Dr Johnson) and the Department of Family Medicine at the Ohio University Heritage College of Osteopathic Medicine in Athens (Drs Johnson and Shubrook), where Dr Shubrook is the Director of the Diabetes Fellowship and the Director of the Diabetes/Endocrine Care and Research Center at the Diabetes Institute.

Financial Disclosures: None reported.

Address correspondence to Jay H. Shubrook Jr, DO

Osteopathic physicians have a unique opportunity to affect the US epidemic of type 2 diabetes mellitus (T2DM). Osteopathic physicians make up a disproportionately high number of primary care physicians who are on the front lines of managing T2DM. In addition, the unique training of osteopathic physicians allows them to direct additional diagnostic and treatment modalities toward the musculoskeletal complications of diabetes. The present review surveys the literature that explores the effects of osteopathic structural diagnosis of and osteopathic manipulative treatment for T2DM, as well as the management and prevention of complications. The authors reviewed the databases for PubMed, Google Scholar, and *The Journal of the American Osteopathic Association*. Although the available literature is limited, the authors identify areas in which osteopathic-focused research has shown benefits and in which future research should be directed.

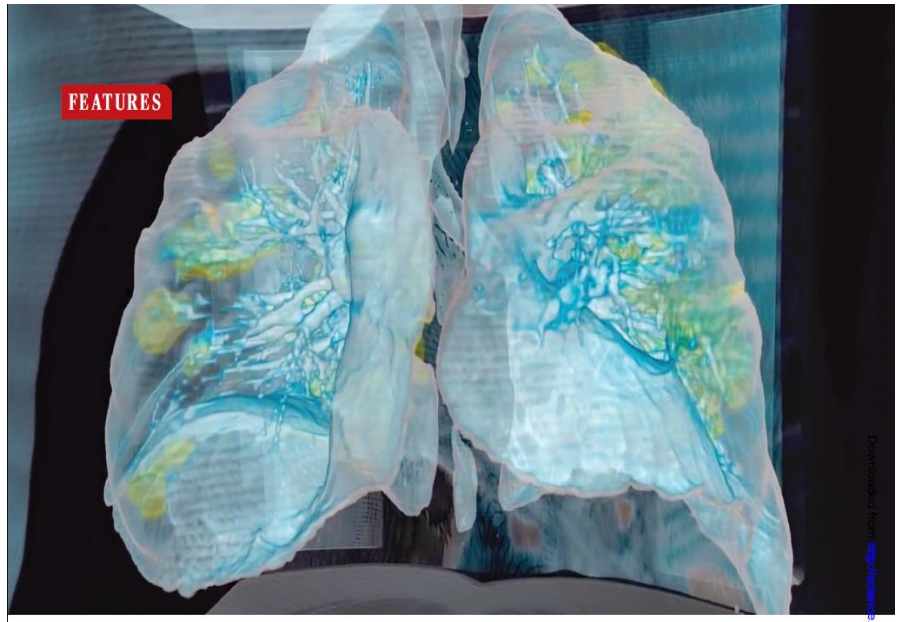
J Am Osteopath Assoc. 2013;113(11):829-836
doi:10.7556/jaoa.2013.058

Table.
Prevalence of Musculoskeletal Manifestations in the General Population vs Patients With T2DM, %

Musculoskeletal Manifestation	General Population	Patients With T2DM
Limited joint mobility of the hands[22,23]	0-26	8-76
Dupuytren contracture[22]	16	20-63
Diffuse idiopathic skeletal hyperostosis[22]	1-13	13-49
Flexor tenosynovitis[22,23]	1-2	5-36
Adhesive capsulitis[22,24,25]	2-10	11-33
Carpal tunnel syndrome[22,24]	1	11-25
Neuropathic osteoarthropathy[23,26]	0.1-0.4	0.1

Abbreviation: T2DM, type 2 diabetes mellitus.

4. OMT E COVID-19: UNA QUESTIONE DA APPROFONDIRE

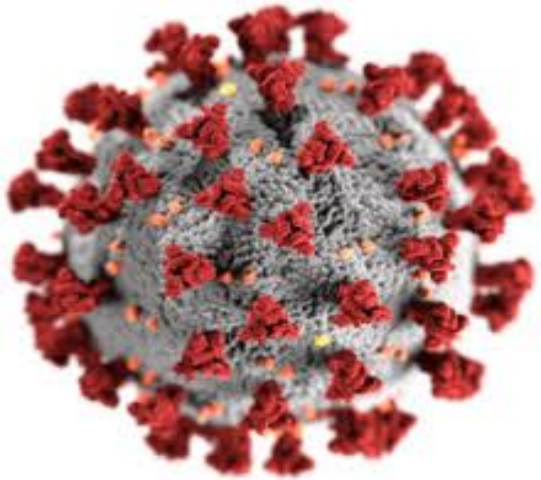


A RAMPAGE THROUGH

THE BODY

The lungs are ground zero, but COVID-19 also tears through organ systems from brain to blood vessels

By **Meredith Wadman**, **Jennifer Couzin-Frankel**, **Jocelyn Kaiser**, *and* **Catherine Matacic**



World Health Organization

23 giugno 2022

ISTITUTO SUPERIORE DI SANITÀ

WHO Coronavirus (COVID-19) Dashboard

Name	Cases - cumulative total	Cases - newly reported in last 7 days	Deaths - cumulative total	Deaths - newly reported in last 7 days	Total vaccine doses administered per 100 population	Persons fully vaccinated with last dose of primary series per 100 population	Persons Boosted per 100 population
Global	**539,119,771**	**3,746,300**	**6,322,311**	**8,041**	**152.83**	**60.78**	**24.35**
United States of America	85.542.508	673.489	1.004.390	1.764	176,54	66,26	31,15
Italy	18.014.202	277.506	167.892	339	228,4	79,57	66,81

Nono posto

Queste foto a colori sono state scattate in Gran Bretagna più di 100 anni fa e riprendono i cittadini inglesi alle prese con l'influenza spagnola. Secondo le stime tra la primavera del 1918 e l'estate 1919 si ammalarono circa 500 milioni di persone, ovvero un terzo della popolazione mondiale. Il bilancio fu tragico: morirono tra i 17 e i 50 milioni di cittadini e ciò rese la spagnola una delle pandemie più letali di sempre.

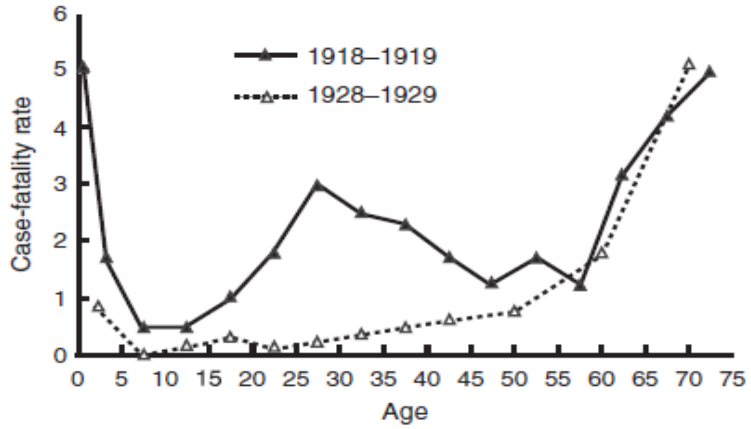
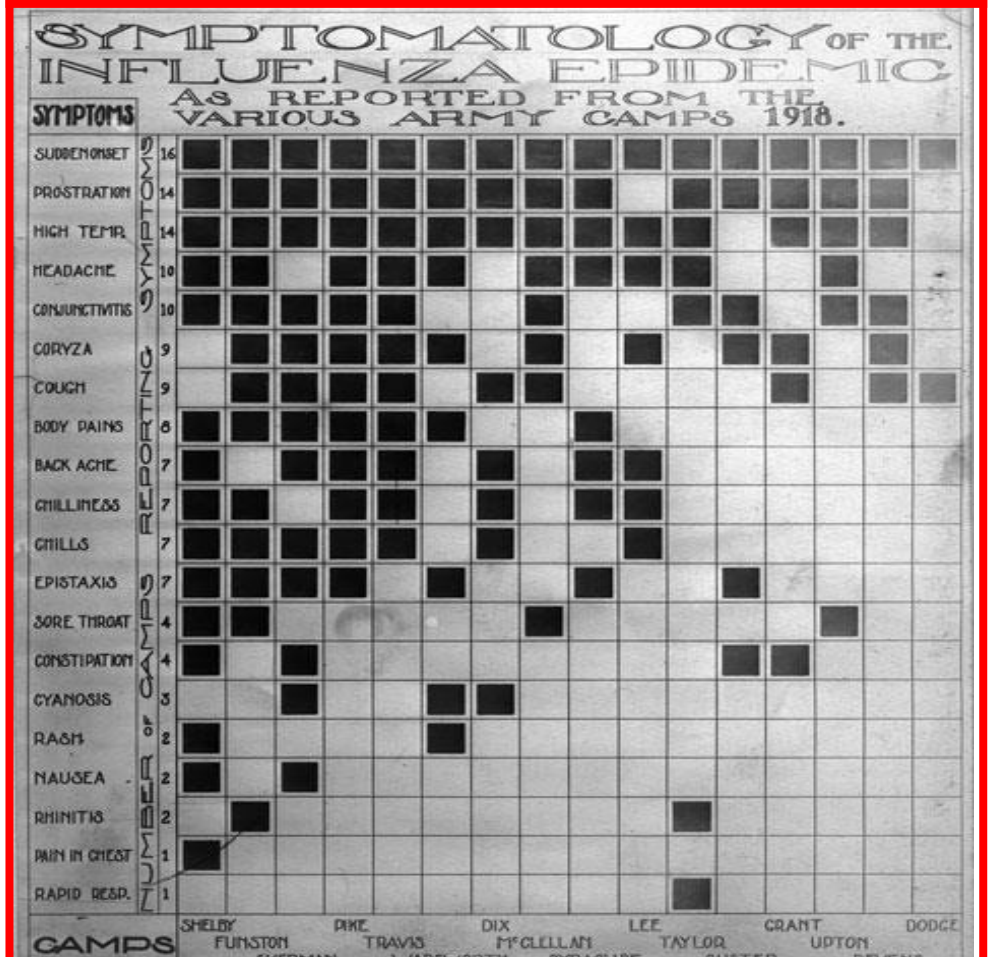


Figure 6. Case-fatality per 100 persons ill with influenza and pneumonia per age group in 1918 (U.S. Public Health Service house-to-house surveys, 8 states) and 1928–1929 (U.S. Public Health Service surveys). The unique W-shaped curve illustrates the high case-fatality rate among infants, young adults, and elderly in 1918 (published in reference 35; publication in the public domain).

DOI:10.1111/irv.12267
www.influenzajournal.com
Review Article

Death from 1918 pandemic influenza during the First World War: a perspective from personal and anecdotal evidence

Peter C. Wever,[a,b] Leo van Bergen[c]



JAOA

Original contribution

Adjunctive osteopathic manipulative treatment in the elderly hospitalized with pneumonia: A pilot study

DONALD R. NOLL, DO
JAY SHORES, PhD
PAUL N. BRYMAN, DO
ELEANOR V. MASTERSON, DO

JAOA • Vol 99 • No 3 • March 1999 • 143

To evaluate the benefit of osteopathic manipulative treatment in the elderly with pneumonia, the authors recruited 21 individuals older than 60 years who were hospitalized with acute pneumonia. Eleven patients were randomly assigned to the treatment group and ten to the control group. The treatment group received specific osteopathic manipulative treatment for somatic dysfunction and a standardized treatment protocol. Both groups received conventional therapy, and the attending physician was blind to group assignments. No significant difference existed between groups for age, sex, or severity of illness. Although the mean duration of leukocytosis, intravenous antibiotic treatment, and length of stay were shorter for the treatment group, these measures did not reach statistical significance. However, the mean duration of oral antibiotic use did reach statistical significance at 3.1 days for the treatment group and 0.8 day for the control group. Osteopathic manipulative treatment may reduce antibiotic use and length of stay; however, a larger study is needed to clarify this outcome.

(Key words: Osteopathic manipulative treatment; pneumonia; elderly, hospitalized)

During the influenza epidemic of 1918, the American Osteopathic Association (AOA) collected case reports from 2445 osteopathic physicians on the mortality from influenza and pneumonia.[1] There were 110,122 case reports of influenza with 257 cases ending in death. The mortality rate from uncomplicated influenza was 0.23%. This rate compared favorably with a national mortality rate of 12% to 15%. The survey also collected 6258 case reports of influenza complicated by pneumonia. The mortality rate for cases complicated by pneumonia was 10% as compared with the national average of 25%.[1,2] Although at that time some raised concerns about the methodolo-

Mortalità per influenza non complicata 0.23% vs 12-15% (circa 50 volte in meno per OMT)

Mortalità per casi complicati dalla polmonite 10% vs 25% (2.5 volte in meno per OMT)

jove Journal of Visualized Experiments www.jove.com

Video Article

Osteopathic Manipulative Treatment as a Useful Adjunctive Tool for Pneumonia

Sheldon Yao[1], John Hassani[1], Martin Gagne[1], Gebe George[1], Wolfgang Gilliar[1]

[1]Department of Osteopathic Manipulative Medicine, New York Institute of Technology College of Osteopathic Medicine

Correspondence to: Martin Gagne at mgagne@nyit.edu

URL: http://www.jove.com/video/50687
DOI: doi:10.3791/50687

Keywords: Medicine, Issue 87, Pneumonia, osteopathic manipulative medicine (OMM) and techniques (OMT), lymphatic, rib raising, thoracic pump, muscle energy, doming diaphragm, alternative treatment

Date Published: 5/6/2014

Citation: Yao, S., Hassani, J., Gagne, M., George, G., Gilliar, W. Osteopathic Manipulative Treatment as a Useful Adjunctive Tool for Pneumonia. *J. Vis. Exp.* (87), e50687, doi:10.3791/50687 (2014).

Figure 6. This figure demonstrates the positional set up for Muscle Energy Technique applied to an exhalation dysfunction of Rib 1.

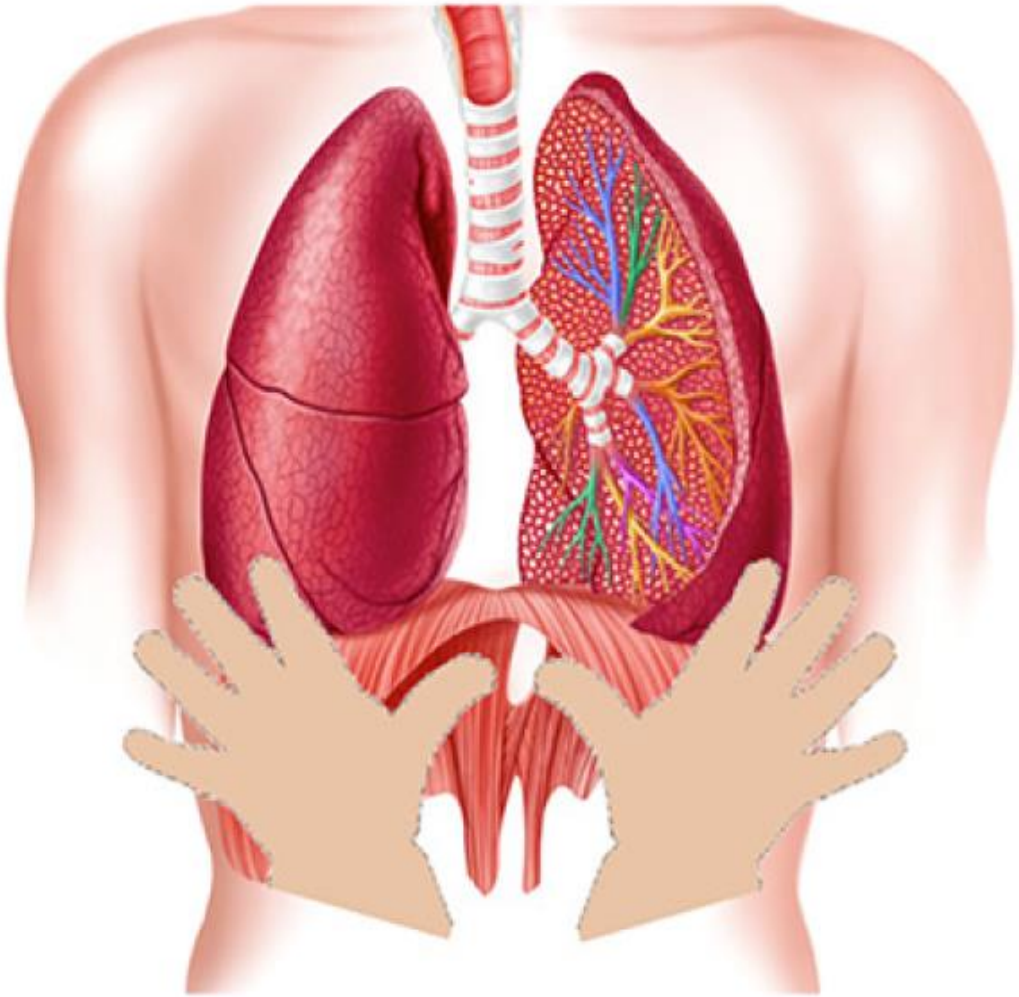


Figure 7. This figure illustrates placement of the thumbs for Doming the Diaphragm Technique, which normalizes the shape of the diaphragm to alleviate abnormal respiratory motions.

Figure 8. This figure demonstrates the positional set up for Doming The Diaphragm technique.

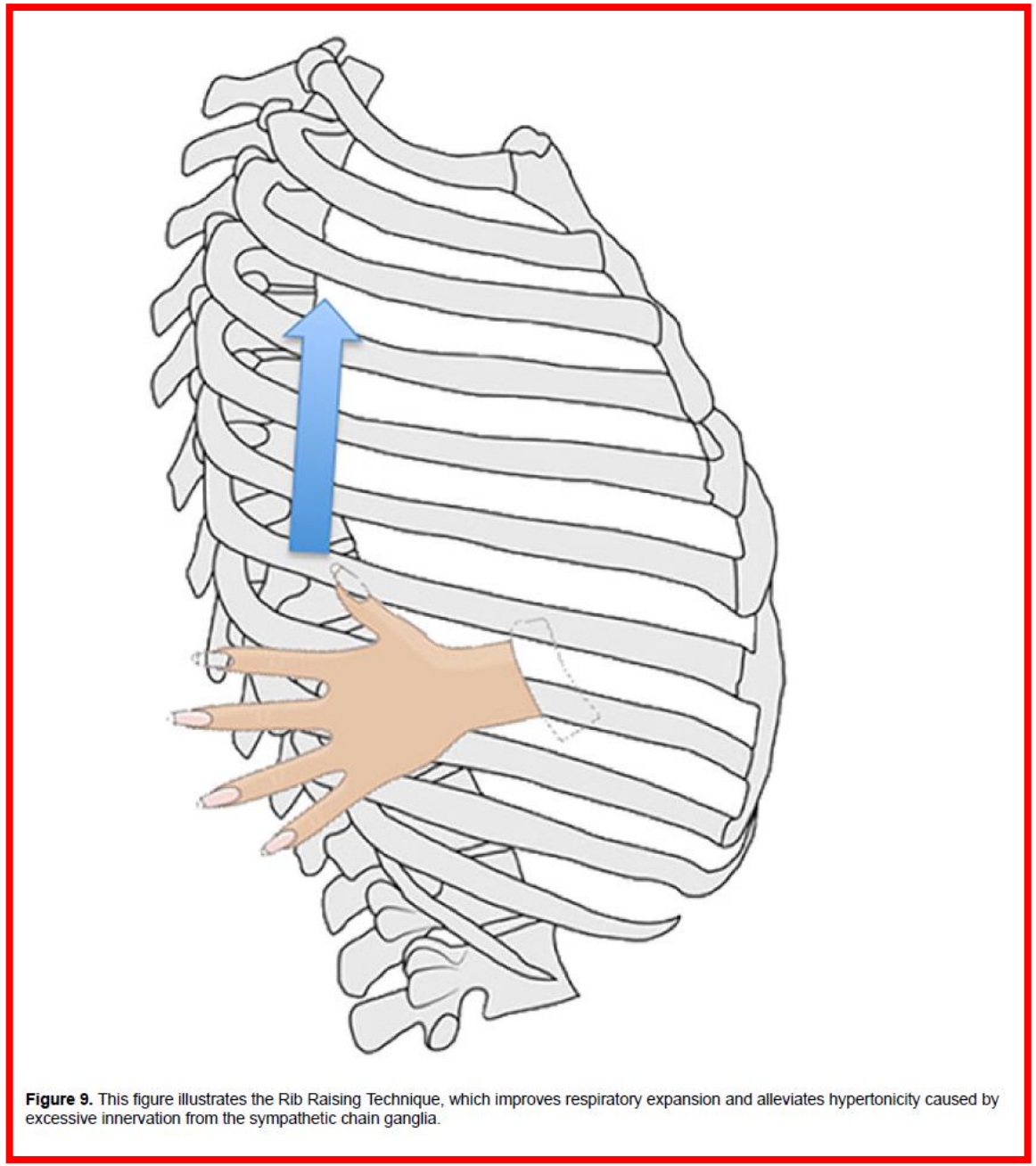


Figure 9. This figure illustrates the Rib Raising Technique, which improves respiratory expansion and alleviates hypertonicity caused by excessive innervation from the sympathetic chain ganglia.

Figure 10. This figure demonstrates the positional set up for Rib Raising Technique.

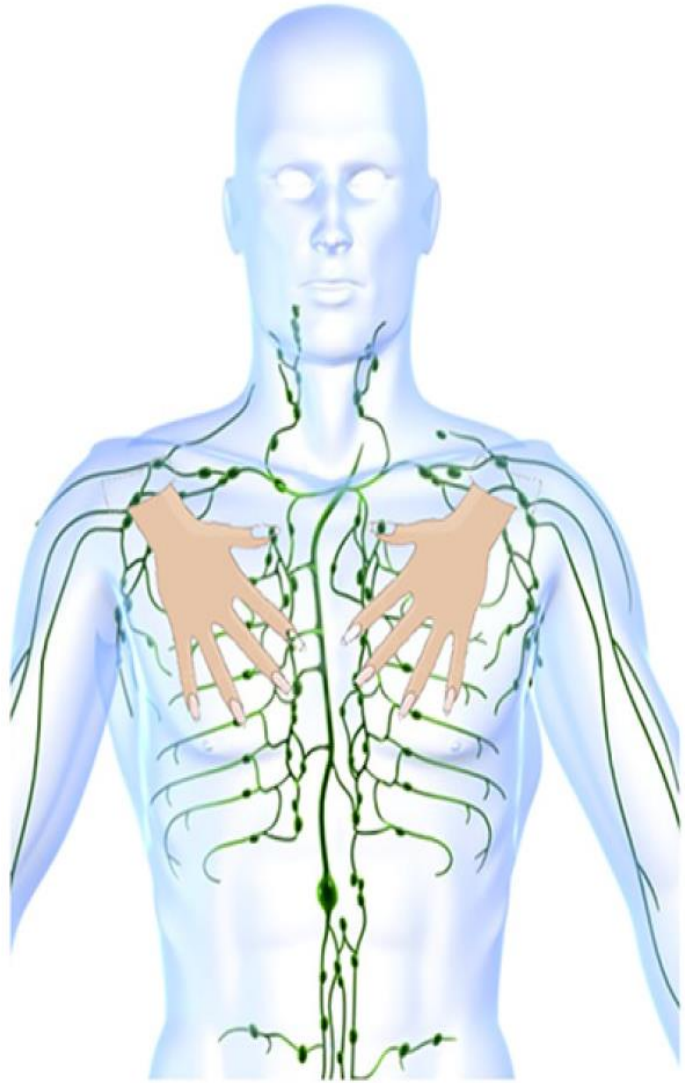


Figure 11. This figure illustrates hand positioning, relative to the lymphatic system, prior to providing downward oscillatory compression in Thoracic Pump Technique.

Figure 12. This figure demonstrates the positional set up for Thoracic Pump Technique.

Multicenter Osteopathic Pneumonia Study in the Elderly: Subgroup Analysis on Hospital Length of Stay, Ventilator-Dependent Respiratory Failure Rate, and In-hospital Mortality Rate

Donald R. Noll, DO
Brian F. Degenhardt, DO
Jane C. Johnson, MA

Context: Osteopathic manipulative treatment (OMT) is a promising adjunctive treatment for older adults hospitalized for pneumonia.

Objective: To report subgroup analyses from the Multicenter Osteopathic Pneumonia Study in the Elderly (MOPSE) relating to hospital length of stay (LOS), ventilator-dependent respiratory failure rate, and in-hospital mortality rate.

Design: Multicenter randomized controlled trial.

Setting: Seven community hospitals.

Participants: Three hundred eighty-seven patients aged 50 years or older who met specific criteria for pneumonia on hospital admission.

Interventions: Participants were randomly assigned to 1 of 3 groups that received an adjunctive OMT protocol (n=130), a light touch (LT) protocol (n=124), or conventional care only (CCO) (n=133).

Main Outcome Measures: Outcomes for subgroup analyses were LOS, ventilator-dependent respiratory failure rate, and in-hospital mortality rate. Subgroups were age (50-74 years or ≥75 years), Pneumonia Severity Index (PSI) class (I-II, III, IV, or V), and type of pneumonia (community-acquired or nursing–home acquired). Data were analyzed by intention-to-treat and per-protocol analyses using stratified Cox proportional hazards models and Cochran-Mantel-Haenszel tests for general association.

Results: By per-protocol analysis of the younger age subgroup, LOS was shorter for the OMT group (median, 2.9 days; n=43) than the LT (median, 3.7 days; n=45) and CCO (median, 4.0 days; n=65) groups (*P*=.006). By intention-to-treat analysis of the older age subgroup, in-hospital mortality rates were lower for the OMT (1 of 66 [2%]) and LT (2 of 68 [3%]) groups than the CCO group (9 of 67 [13%]) (*P*=.005). By per-protocol analysis of the PSI class IV subgroup, the OMT group had a shorter LOS than the CCO group (median, 3.8 days [n=40] vs 5.0 days [n=50]; *P*=.01) and a lower ventilator-dependent respiratory failure rate than the CCO group (0 of 40 [0%] vs 5 of 50 [10%]; *P*=.05). By intention-to-treat analysis, in-hospital mortality rates in the PSI class V subgroup were lower (*P*=.05) for the OMT group (1 of 22 [5%]) than the CCO group (6 of 19 [32%]) but not the LT group (2 of 15 [13%]).

Conclusion: Subgroup analyses suggested adjunctive OMT for pneumonia reduced LOS in adults aged 50 to 74 years and lowered in-hospital mortality rates in adults aged 75 years or older. Adjunctive OMT may also reduce LOS and in-hospital mortality rates in older adults with more severe pneumonia. Interestingly, LT also reduced in-hospital mortality rates in adults aged 75 years or older relative to CCO. (ClinicalTrials.gov number NCT00258661)

J Am Osteopath Assoc. 2016;116(9):574-587

Mortalità
1/ 22 OMT (5%)
6/19 CCO (32%)
2/15 sham (13%)

DE GRUYTER J Osteopath Med 2021; 121(3): 331–332

Letter to the Editor

Nicola Vanacore*, MD, PhD

New clinical research urgently needed for adjunctive OMT treatment in elderly patients hospitalized with COVID-19 pneumonia

Table: Measures of the effect of adjunctive OMT on in-hospital mortality among adults aged 75 years or older hospitalized for COVID-19 pneumonia [8][a].

Measure	Formula	Value
Mortality in the control group (Mc)	Mc = (n deaths/n participants) × 100	13.0%
Mortality in the treatment group (Mt)	Mt = (n deaths/n participants) × 100	2.0%
Absolute risk reduction (ARR)	ARR = Mt − Mc	−11.0%
Relative risk (RR)	RR = Mt/Mc	0.15
Relative risk reduction (RRR)	RRR = [(Mc − Mt)/Mc] × 100	85.0%
Number needed to treat (NNT)	NNT = 1/ARR	9

[a]Table developed by the authors from data published in Noll DR, Degenhardt BF, Johnson JC. Multicenter osteopathic pneumonia study in the elderly: subgroup analysis on hospital length of stay, ventilator-dependent respiratory failure rate, and in-hospital mortality rate [8].

DE GRUYTER J Osteopath Med 2021; 121(2): 181–190

Neuromusculoskeletal Medicine (OMT) Review Article

Francesca Baroni*, BSc, DO, Damiana Mancini, DO, Silvia Clara Tuscano, Simone Scarlata, MD, Christian Lunghi, BSc, DO, Francesco Cerritelli, PhD, DO and Jason Haxton, MA

Osteopathic manipulative treatment and the Spanish flu: a historical literature review

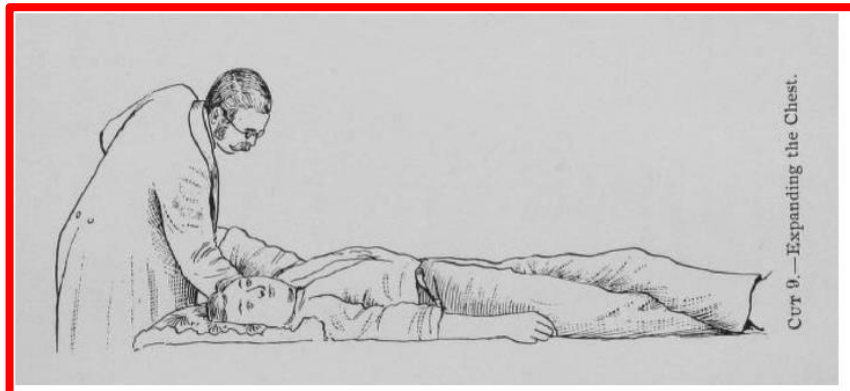


Figure 1: Patient receiving osteopathic manipulative treatment for expanding the chest, as found in Barber[68] at the Museum of Osteopathic Medicine (public domain).

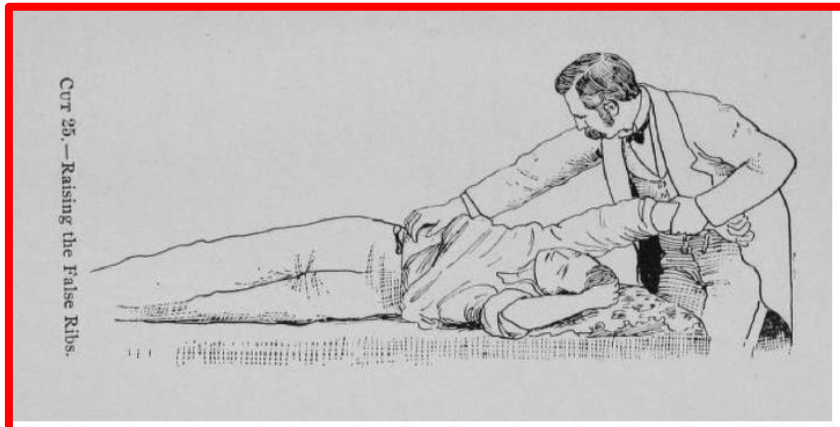


Figure 2: Patient receiving osteopathic manipulative treatment for raising the false ribs, as found in Barber[69] at the Museum of Osteopathic Medicine (public domain).

Conclusion: Conclusions from this study are limited by the historical and descriptive nature of the data gathered, which lacked the rigor of modern-day scientific studies. However, this review could lead to future research inquiries on the effectiveness of these approaches. Osteopathic physicians and osteopaths should embrace their historical osteopathic heritage by continuing the work of our predecessors and combining their hands-on experience and osteopathic principles with modern medical treatment and rigorous scientific standards.

International Journal of Osteopathic Medicine xxx (xxxx) xxx

Contents lists available at ScienceDirect

International Journal of Osteopathic Medicine

journal homepage: www.elsevier.com/locate/ijosm

Adjunctive osteopathic therapy for hospitalized COVID-19 patients: A feasibility-oriented chart review study with matched controls

Robert P. Lennon [a,*], Huamei Dong [b], Aleksandra E. Zgierska [a], Theodore Demetriou [a], Jason Croad [a], Craig Livelsberger [b], Lisa Hodge [c], Megan Mendez-Miller [a], Anne Darby [a], David Rabago [a]

Background: Osteopathic manipulative treatment (OMT) may improve outcomes during COVID-related respiratory distress – the most common cause of death from novel coronavirus (SARS-CoV-2). Outcomes from OMT treatments of respiratory distress during the COVID-19 pandemic have not been reported.

Objective: Assess adjunctive OMT in hospitalized patients with SARS-CoV-2 and respiratory distress.

Design: Feasibility oriented retrospective observational cohort study.

Setting: COVID-19 (non-ICU) ward in a tertiary academic medical center.

Methods: Inpatients received daily OMT treatments of rib raising, abdominal diaphragm doming, thoracic pump and pedal pump. Primary outcomes were procedural acceptance, satisfaction, side effects, and adverse events. Secondary outcomes were patient-reported clinical change after therapy; number of hospital days; need during hospitalization for high-flow oxygen, C-PAP/BiPAP or intensive care; need for supplementary oxygen at discharge; and discharge disposition.

Participants: Hospitalized adults with SARS-CoV-2 infection and respiratory distress.

Results: OMT (n = 27) and Control (n = 152) groups were similar in demographics and most laboratory studies. 90% of patients accepted OMT and reported high satisfaction (4.26/±0.71 (maximum 5)), few negative effects, no adverse events, and positive clinical change (5.07 ± 0.96 (maximum 7)). Although no significant differences were found in secondary outcomes, OMT patients trended towards fewer hospital days than Controls ($p = 0.053$; Cohen's $d = 0.22$), a relationship that trended towards correlation with number of co-morbidities ($p = 0.068$).

Conclusion: Hospitalized patients with respiratory distress and COVID-19 reported acceptance, satisfaction, and greater ease of breathing after a four-part OMT protocol, and appear to have a shorter length of hospitalization. Randomized controlled trials are needed to confirm these results.

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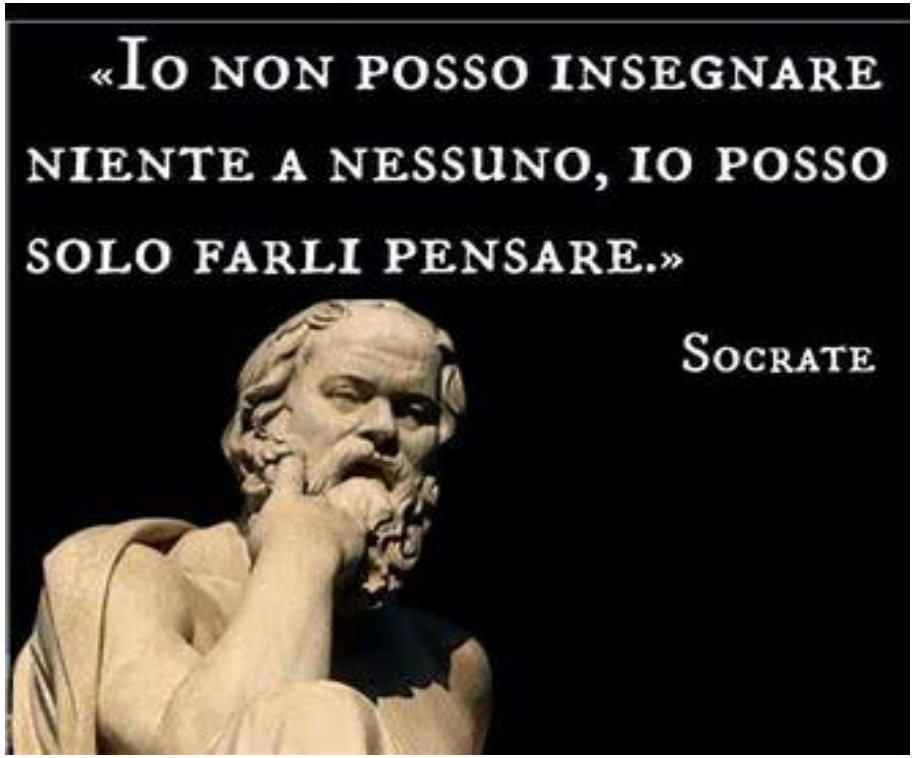
Osteopathy and physiotherapy compared to physiotherapy alone on fatigue in long COVID: Study protocol for a pragmatic randomized controlled superiority trial

Ana Christina Certain Curi, D.Sc. Student [a,b], Ana Paula Antunes Ferreira, D.Sc. [b], Leandro Alberto Calazans Nogueira, D.Sc. [a], Ney Armando Mello Meziat Filho, D.Sc. [a], Arthur Sá Ferreira, D.Sc. [a,*]

[a] *Postgraduate Program of Rehabilitation Sciences, Centro Universitário Augusto Motta/UNISUAM, Rio de Janeiro, RJ, Brazil*
[b] *Instituto Brasileiro de Osteopatia/ IBO, Rio de Janeiro, Brazil*

5. CONCLUSIONI



Cerritelli *et al. BMC Complement Med Ther* (2021) 21:252
https://doi.org/10.1186/s12906-021-03430-y

BMC Complementary Medicine and Therapies

RESEARCH Open Access

Evidence-based practice among Italian osteopaths: a national cross-sectional survey

Francesco Cerritelli[1*], Alessio Iacopini[1], Matteo Galli[1], Oliver P. Thomson[1,2], Tobias Sundberg[3,4,5], Matthew J. Leach[3,6] and Jon Adams[3]

Methods: A cross-sectional national survey was conducted (April to June 2020) among a sample of Italian osteopaths. Eligible participants were invited to complete the Italian-translated Evidence-Based practice Attitude and Utilization Survey (EBASE) anonymously online using various recruitment strategies, including email and social media campaigns. In addition to the three EBASE sub-scores (attitudes, skills and use), the demographic characteristics of the sample were considered.

Results: A total of 473 osteopaths responded to the survey. The sample appeared to represent the Italian osteopathic profession. The majority of participants had a favorable attitude toward EBP. Eighty-eight percent of respondents agreed that EBP was necessary for osteopathy practice and that scientific literature and research findings were beneficial to their clinical scenario (95%). Perceived skill levels in EBP were rated as moderate, with the lowest scores for items relating to clinical research and systematic review conduct. Apart from reading/reviewing scientific literature and using online search engines to locate relevant research papers, participant engagement in all other EBP-related activities was generally low. Clinical practice was perceived to be based on a very small proportion of clinical research evidence. The primary obstacles to EBP implementation were a dearth of clinical evidence in osteopathy, and poor skills in applying research findings. The primary enablers of EBP adoption were access to full-text articles, internet connectivity at work, and access to online databases.

Conclusions: Italian osteopaths were largely supportive of evidence-based practice but lacked basic skills in EBP and rarely engaged in EBP activities. The updating of osteopathic training curriculum and professional formal regulation in Italy could provide a suitable framework to improve EBP skills and use.

Table 1 Demographic characteristics of the sample ($n = 473$)

	n (%)
Gender (M)	274 (58)
Age	
20–29	133 (28)
30–49	260 (55)
50–60	80 (17)
Degree	
Diploma	133 (24)
Bachelor or higher	360 (76)
Working experience (less 10 years)	346 (73)
Context	
Private practice	307 (65)
Public practice	156 (33)
Formation (e.g. university, school)	10 (2)
Region (North-west)	202 (43)

Table 5 Participant self-reported skills in evidence-based practice ($n = 473$)

	1 Low *n(%)*	*2* Low-moderate *n(%)*	*3* Moderate *n(%)*	*4* Moderate-High *n(%)*	*5* High *n(%)*
Identifying knowledge gaps in practice	16 (3.4)	51 (10.8)	229 (48.4)	156 (33)	21(4.4)
Identifying answerable clinical questions	4 (0.8)	40 (8.4)	180(38.1)	227 (48.0)	22 (4.6)
Locating professional literature (i.e. journal articles)	24 (5.1)	78 (16.5)	157 (33.2)	142 (30)	72 (15.2)
Online database searching (e.g. PubMed)	28 (5.9)	75 (15.9)	144 (30.4)	148 (31.3)	78 (16.5)
Retrieving evidence	32 (6.8)	113 (23.9)	163 (34.5)	124 (26.2)	41 (8.7)
Critical appraisal of evidence	70 (14.8)	135 (28.5)	146 (30.9)	95 (20.1)	27 (5.7)
Synthesis of research evidence	57 (12.1)	94 (19.9)	183 (38.6)	112 (23.7)	27 (5.7)
Applying research evidence to patient cases	18 (3.8)	72 (15.2)	208 (44)	151 (31.9)	24 (5.1)
Sharing evidence with colleagues	47 (9.9)	73 (15.4)	138 (29.2)	163 (34.5)	52 (11)
Conducting clinical research (e.g. clinical trials)	173 (36.6)	117 (24.7)	115 (24.3)	48 (10.2)	20 (4.2)
Using findings from clinical research	50 (10.6)	130 (27.5)	193 (40.8)	78 (16.5)	22 (4.6)
Conducting systematic reviews	168 (35.5)	128 (27.1)	106 (22.4)	61 (12.9)	10 (2.1)
Using findings from systematic reviews	60 (12.7)	114 (24.1)	165 (34.9)	111 (23.5)	23 (4.8)

Table 7 Participant use of evidence-based practice (i.e. number of times each activity was performed over the last month) ($n = 473$)

	1 0 times *n(%)*	*2* 1–5 times *n(%)*	*3* 6–10 times *n(%)*	*4* 11–15 times *n(%)*	*5* 16+ times *n(%)*
I have read/reviewed professional literature (i.e. professional journals & textbooks) related to my practice	57 (12.1)	214 (45.2)	105 (22.2)	37 (7.8)	60 (12.7)
I have read/reviewed clinical research findings related to my practice	97 (20.5)	226 (47.8)	81 (17.1)	28 (5.9)	41 (8.7)
I have used professional literature or research findings to assist my clinical decision-making	113 (23.9)	245 (51.8)	74 (15.6)	14 (3)	27 (5.7)
I have used professional literature or research findings to change my clinical practice	170 (35.9)	229 (48.4)	52 (11)	9 (1.9)	13 (2.8)
I have used an online database (e.g. PubMed, MEDLINE) to search for practice related literature or research	111 (23.5)	184 (38.9)	75 (15.9)	41 (8.6)	62 (13.1)
I have used an online search engine (e.g. Google) to search for practice related literature or research	104 (22)	198 (41.9)	78 (16.5)	45 (9.5)	48 (10.1)
I have consulted a colleague or industry expert to assist my clinical decision-making	151 (31.9)	247 (52.2)	56 (11.9)	12 (2.5)	7 (1.5)
I have referred to magazines, layperson/self-help books, or non-government/non-education institution websites to assist my clinical decision-making	242 (51.2)	180 (38.1)	33 (7.0)	5 (1.0)	13 (2.7)

- **Stimolare** un cambiamento culturale in cui l'osteopata venga individuato come un operatore di sanità pubblica che interagisca con gli altri professionisti della prevenzione

- **Diffondere** la cultura osteopatica basata non solo sul modello di struttura-funzione biomeccanico ma anche sugli altri 4 modelli (funzione respiratorio/circolatorio, neurologico, biopsicosociale e bioenergetico)

- **Promuovere** la collaborazione e la contaminazione culturale degli osteopati con tutti gli altri professionisti sanitari superando la logica del «fornire solo casi» e perseguendo un approccio multi-professionale e multi-disciplinare

- **Inserire** nei programmi didattici odierni il ruolo dell'osteopata come operatore sanitario della prevenzione in accordo con le normative vigenti

- **Definire un programma di ricerca adeguatamente finanziato per promuovere una ricerca clinica e una ricerca sui meccanismi biologici dell'OMT che superi la diffusione degli studi di piccole dimensioni.**

- **Stimolare la partecipazione degli osteopati nei gruppi di lavoro delle Linee Guida (esempio panel) che vengono costituiti in accordo al manuale metodologico del Sistema Nazionale delle Linee Guida.**

- **Definire un programma di formazione continua (ECM) focalizzato sulla diffusione dell'Evidence Based Practice in osteopatia.**

- **Promuovere la redazione di «position paper» sull'efficacia e l'utilità dell'OMT ed utilizzarli in una campagna di informazione rivolta agli altri professionisti sanitari e ai cittadini.**