Gruppo di ricerca geriatrica

Seminario del Venerdi'
6 Agosto 2010

La Vita nelle Rsa durante L'Estate

Corrado Carabellese
Gruppo di Ricerca Geriatrica

Variazioni Climatiche e Mortalità

Le ondate di calore sono associate ad un incremento della mortalità a breve termine

l'ondata che si è verificata nell'estate 1995 a Londra si è associata ad un incremento della mortalità attesa del 16%

Rooney et al, JECH 1998; 52:482

Effetti Diretti ed indiretti del clima sulla salute

Effetti Diretti

L'esposizione alle temperature estreme comporta variazione nella frequenza di malattie e mortalità associata al caldo e freddo.

Effetti Indiretti

Effetti sull'attività di Vettori e Parassiti con conseguente incidenza di malattie a trasmissione mediata da agenti parassitari

Variazione dell'equilibrio ecologico di organismi che vivono nell'acqua e cibo con incidenza di malattie infettive gastrointestinali

Aumento dell'inquinamento atmosferico nelle diverse componenti

Variazione della densità di allergeni con maggior incidenza di asma, malattie allergiche e BPCO.

Variazione climatiche e mortalità

Risultati Effetti ondata di calore Estate 2003 Regione Toscana

L'indagine ha registrato:
Eccesso di mortalità elevata nei soggetti ultra 65 enni
Ampia variabilità della incidenza di mortalità tra capoluoghi (incremento massimo Massa 188%, Lucca incremento minore 18%)

Variazione della incidenza di mortalità per classi d'età nel 2003:
0-64 anni 12.5%
65-74 anni 15.8%
>75 anni 71,7%

Differenza in % della mortalità 2003 vs media del periodo 2000-2002:
0-64 anni 0,3%
65-74 1.0%
>75 15,1%

Variazione climatiche e mortalità

Risultati Effetti ondata di calore Estate 2003 Regione Toscana

Variazione della mortalità secondo la tipologia dei comuni e per gli ultra 75enni:

Capoluogo 37%
Comuni con > 30.000 abitanti: 14.4%
Comuni con < 30.000 abitanti: 48.6%

Differenza in % della mortalità 2003 vs media del periodo 2000-2002:

Capoluogo 15.4%
Comuni con > 30.000 abitanti: 33.4%
Comuni con < 30.000 abitanti: 10.3%

Variazione climatiche e mortalità

Risultati Effetti ondata di calore Estate 2003 Regione Toscana

Variazione di mortalità per zona altimetrica negli ultra 75enni:
Collina 66.9%
Montagna 13.0%
Pianura 20.1%

Differenza in % della mortalità 2003 vs media del periodo 2000-2002:
Collina 16.8%
Montagna -1.3%
Pianura 24.9%

Variazione climatiche e mortalità

Risultati Effetti ondata di calore Estate 2003 Regione Toscana

Variazione di mortalità per nucleo familiare negli ultra 75enni:

Mono-nucleo 36.6%

2 persone 30.1%

3 -10 Persone 28.3%

> 10 persone 4.9%

Differenza in % della mortalità 2003 vs 2002:

Mono-nucleo: 14.1%

2 persone: 8.1%

3 -10 Persone: 4.1%

> 10 persone: 54.5%

Variazione climatiche e mortalità

Risultati Effetti ondata di calore Estate 2003 Regione Toscana

Conclusioni

I risultati indicano un chiaro eccesso di mortalità nei periodi più caldi dell'estate 2003.

I soggetti maggiormente a rischio sembrano essere gli ultra 75enni che vivono da soli, in comunità, nei comuni con oltre 30.000 abitanti ed in pianura.

I risultati confermano la necessità di un programma di sorveglianza e prevenzione per la popolazione a rischio.

ARS-ARSIA-ARPAT, 2004

Rev Prat. 2004 Jun 30;54(12):1298-304.

[Disorders caused by prolonged exposure to heat]

[Article in French]

Lavallart B, Bourdon L, Gonthier R, Dab W.

Direction Générale de la Santé

Abstract

France has suffered last summer an unprecedented heat wave that led to an exceptional short-term surge of mortality. Cumulative deaths between August 1st to 14th are estimated at 14,800. Epidemiological studies carried out by the Institute de Veille Sanitaire will show the circumstances and risk factors leading to heat-related pathologies. A literature review already shows the principles of prevention, the circumstances of occurrences during similar past heat waves, the risk factors and the principles of treatment. Prolonged exposure to heat can be the initial cause of death, mainly in the elderly. The subject thus dies of an overload of his natural defenses, unable to preserve his thermal homeostasis. This is then a heat shock that reaches the central nervous system. Heat shocks could kill every second patient and leads to severe neurological sequel. During a heat wave, high temperatures can also trigger or worsen other illnesses or be responsible for other so called heat-related syndromes. **It is crucially important to identify subjects at risk, situations of risk, and preventive measures, knowing that heat shock leads 25% of patients to develop multi-organ failure, even when appropriately treated.**

Epidemiology. 2006 May;17(3):315-23.

Vulnerability to heat-related mortality: a multicity, population-based, case-crossover analysis.

Stafoggia M, Forastiere F, Agostini D, Biggeri A, Bisanti L, Cadum E, Caranci N, de' Donato F, De Lisio S, De Maria M, Michelozzi P, Miglio R, Pandolfi P, Picciotto S, Rognoni M, Russo A, Scarnato C, Perucci CA.
Department of Epidemiology, Rome E Health Authority, Rome, Italy.

Abstract

BACKGROUND: Although studies have documented increased mortality during heat waves, little information is available on the subgroups most susceptible to these effects. We evaluated the effects of summertime high temperature on daily mortality among population subgroups defined by demographic characteristics, socioeconomic status, and episodes of hospitalization for various conditions during the preceding 2 years. METHODS: We studied a total of 205,019 residents of 4 Italian cities (Bologna, Milan, Rome, and Turin) age 35 or older who died during 1997-2003. The case-crossover design was applied to evaluate the association between mean apparent temperature (same and previous day) and all-cause mortality. Pooled odds ratios (ORs) and 95% confidence intervals (CIs) of dying at 30 degrees C (apparent temperature) relative to 20 degrees C were estimated accounting for time, population changes, and air pollution. RESULTS: We found an overall OR of 1.34 (CI = 1.27-1.42) at 30 degrees C relative to 20 degrees C. The odds ratio increased with age and was higher among women (OR = 1.45; 1.37-1.52) and among widows and widowers (1.50; 1.33-1.69). Low area-based income modestly increased the effect. Among the preexisting medical conditions investigated, effect modification was detected for previous psychiatric disorders (1.69; 1.39-2.07), depression (1.72; 1.24-2.39), heart conduction disorders (1.77; 1.38-2.27), and circulatory disorders of the brain (1.47; 1.34-1.62). Temperature-related mortality was higher among people residing in nursing homes, and a large effect was also detected for hospitalized subjects. CONCLUSIONS: **Subsets of the population that are particularly vulnerable to high summer temperatures include the elderly, women, widows and widowers, those with selected medical conditions, and those staying in nursing homes and healthcare facilities**.

J Am Med Dir Assoc. 2010 Jul;11(6):449-52.

For debate: The August sun and the December snow.

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Abstract

A growing body of evidence claims there is a pivotal role of heat temperatures and summer hot spells in the pathogenesis of exceeding morbidity and mortality among older people. The European well-known "2003 killer hot summer" has boosted many epidemiological and clinical investigations to clarify the pathogenetic correlation between hot spells and elderly mortality with new acquirements in terms of pathophysiology, preventive measures, and therapeutic approaches. However, a quite controversial issue arises: overall elderly mortality is higher in the cold winter compared with summer. The progressive development of preventive, therapeutic, and environmental measures, if targeted with promptness, has generally proven effective in coping with heat temperature, restraining elderly mortality. However, few investigations have been performed dealing with cold, with pioneeristic as well as simplistic approaches, without any conclusiveness or effectiveness in terms of prevention or therapy. Data from recent literature enlist various clinical and environmental approaches in counteracting cold-related mortality in elderly, but lack evidence-based results; a recent European collaborative study reported cold-related elderly mortality as non-negligible, deserving the growing attention of public authorities. We conducted a 4-year survey among 6 different nursing homes located in a seaside city of northern Italy so as to collect epidemiological data on stressful weather spells and elderly mortality. **Our results showed that overall elderly mortality in the cold season displayed as significantly high rates as in summer, and the monthly deaths per year of observation showed higher rates in the cold season, addressing it as the most prevalent time period related to mortality in older people.** Thus, research in the field is mandatory so as to draw a broader conceptual framework for the stratification of specific population risk profiling and the assessment of adequate preventive and therapeutic measures. To the present knowledge, the lack of pathophysiological understanding, the missing evidence-based data in coping with cold weather-related elderly mortality, together with policy makers' misconceptions is mounting the controversy on this emerging clinical issue.

La patologia da calore

La patologia da calore si verifica quando il corpo non è in grado di compensare l’accumulo di calore attraverso i meccanismi di dispersione.

L’emergenza climatica con aumento della temperatura ed umidità determina disidratazione specie in presenza di un mancato reintegro dei liquidi persi.

Aspetti fisiologici della termoregolazione

Meccanismi del corpo di dispersione del calore

1- Convenzione (riscaldamento dell'aria attorno alla superficie corporea): attraverso la vasodilatazione

2- Conduzione: contatto con superfici solide, generalmente a temperatura inferiore rispetto a quella corporea

3- Sudorazione: meccanismo più efficace di dispersione

4- aumento frequenza respiratoria. L'aria inspirata è in genere più fredda.

Heat-waves: risk and responses. WHO, Europe 2004

Grado di disidratazione in un soggetto di 70 Kg:

Il 2% di disidratazione corrisponde alla perdita di 1.4 litri che si accompagna a sete;

Il 4% corrisponde alla perdita di 2.8 litri che si accompagna a secchezza delle fauci;

Il 6% corrisponde alla perdita di 4.2 litri che si accompagna ad aumento della frequenza cardiaca e della temperatura corporea;

l'8% corrisponde alla perdita di 5.6 litri che si accompagna a edema della lingua, difficoltà a parlare, ridotta performance fisica e mentale;

Il 12% corrisponde alla perdita di 8.4 litri che si modifica solo con la somministrazione di liquidi per via parenterale;

Il 14% corrisponde alla perdita di 9.8 litri che determina un aumento rapido della temperatura e morte.

Havenith 2003: cCash Workshop

Fattori di rischio della patologia da calore

Ambientali: da emergenza climatica

intrinseci: individuali

Estrinseci: socio-economici

Fattori di rischio individuali

(demografici e comportamentali)

Età (< di 1 anno o > 60-65 anni)
Peso (obesità)
Scarsa attività fisica
Attività pesante durante le ore più calde
Abuso di alcool
Stato di disidratazione di liquidi e alimenti
Stato di deprivazione del sonno

Basu et al Epidemiol Rev 2002: 24; 190-202

Arch Intern Med. 2007 Nov 12;167(20):2170-6. Epub 2007 Aug 13.

Prognostic factors in heat wave related deaths: a meta-analysis.

Bouchama A, Dehbi M, Mohamed G, Matthies F, Shoukri M, Menne B.
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Abstract

BACKGROUND: Although identifying individuals who are at increased risk of dying during heat waves and instituting protective measures represent an established strategy, the evidence supporting the components of this strategy and their strengths has yet to be evaluated. We conducted a meta-analysis of observational studies on risk and protective factors in heat wave-related deaths. METHODS: Using the OVID interface, we searched Medline (1966-2006) and CINHAL (1982-2006) databases. The Web sites of the World Health Organization, Institut National de Veille Sanitaire, and Centers for Disease Control and Prevention were also visited. The search terms included heat wave, heat stroke, heatstroke, sunstroke, and heat stress disorders. Eligible studies were case-control or cohort studies. Odds ratios (ORs) and information on study quality were abstracted by 2 investigators independently. Six case-control studies involving 1065 heat wave-related deaths were identified. RESULTS: **Being confined to bed** (OR, 6.44; 95% confidence interval [CI], 4.5-9.2), **not leaving home daily** (OR, 3.35; 95% CI, 1.6-6.9), and **being unable to care for oneself** (OR, 2.97; 95% CI, 1.8-4.8) were associated with the highest risk of death during heat waves. **Preexisting psychiatric illness** (OR, 3.61; 95% CI, 1.3-9.8) tripled the risk of death, **followed by cardiovascular** (OR, 2.48; 95% CI, 1.3-4.8) and **pulmonary** (OR, 1.61; 95% CI, 1.2-2.1) **illness. Working home air-conditioning** (OR, 0.23; 95% CI, 0.1-0.6), **visiting cool environments** (OR, 0.34; 95% CI, 0.2-0.5), and **increasing social contact** (OR, 0.40; 95% CI, 0.2-0.8) were strongly associated with better outcomes. Taking extra showers or baths (OR, 0.32; 95% CI, 0.1-1.1) and using fans (OR, 0.60; 95% CI, 0.4-1.1) were associated with a trend toward lower risk of death. CONCLUSION: **The present study identified several prognostic factors that could help to detect those individuals who are at highest risk during heat waves and to provide a basis for potential risk-reducing interventions in the setting of heat waves**.

Fattori di rischio individuali

(Clinici)

Patologie cardiovascolari (ipertensione arteriosa, Scompenso cardiaco, Infarto miocardico)
Ictus
Patologie respiratorie croniche (Asma, BPCO)
insufficienza respiratoria
Stato di disabilità (ADL)
Patologie della sfera cognitiva (Demenza, psicosi, depressione)
Disidratazione da infezioni intestinali
Distiroidismo.

Basu et al Epidemiol Rev 2002: 24; 190-202

Age Ageing. 2007 May;36(3):298-303. Epub 2007 Mar 24.

Level of dependency: a simple marker associated with mortality during the 2003 heatwave among French dependent elderly people living in the community or in institutions.

Belmin J, Auffray JC, Berbezier C, Boirin P, Mercier S, de Reviers B, Golmard JL.
Service de gériatrie, Hôptal Charles Foix and Université Paris 6, Ivry-sur-Seine, France.

Abstract

BACKGROUND: In France, the August 2003 heat wave was responsible for considerable excess mortality among the elderly. We wonder whether the dependency level could be a marker of the risk for mortality during this heat wave. METHODS: Retrospective cohort study of deaths that occurred between 1 and 20 August 2003, conducted in five departments in the Paris area (Ile-de-France) among the beneficiaries of the Allocation personnalisée d'autonomie (APA), a stipend specifically allocated to dependent subjects > or =60 years of age. Their dependency level was determined by the GIR group (defined by the French law) used to fix the APA amount. Subjects' GIR group classification and demographic variables were obtained from departmental administrative files. RESULTS: Among the 31,603 APA beneficiaries alive on 31 July 2003, 16,779 were community dwellers and 14,824 lived in institutions. Between 1 and 20 August 2003, 858 subjects died: 300 community dwellers and 558 institutionalised (mortality rates of 2.7, 1.8 and 3.8 per cent, respectively). Independent risk factors for mortality were: age, sex and GIR group in community dwellers; age, GIR group and living in a region highly exposed to heatwave mortality for institutionalised elderly; independent factors for mortality were age, sex, GIR group, type of residence (institution/community), living in a region highly exposed to heatwave mortality and income for the overall population. CONCLUSION: **The dependency level was associated with mortality during the 2003 heatwave in France, especially for elderly community dwellers. Dependency might help identify high-risk subjects and guide targeted prevention measures against heatwave-associated mortality.**

Fattori di rischio individuali

(Iatrogenesi)

Anticolinergici (blocco della sudorazione, aumento della frequenza cardiaca)

Antispicotici (alterazione dei meccanismi di termoregolazione)

Diuretici e lassativi (alterazione dell'equilibrio idro-elettrolitico)

Ace-inibitori e beta bloccanti (vasodilatazione e ipotensione arteriosa)

Analgesici minori ed oppiodi (riduzione della sensibilità al caldo)

Antidepressivi (aumento della frequenza cardiaca, effetti proaritmici)

Goodman e Gilman 2003. 10 ed.Basu et al Epidemiol Rev 2002: 24; 190-202

South Med J. 2002 Aug;95(8):799-802.

Drug-associated heat stroke.

Martinez M, Devenport L, Saussy J, Martinez J.
Section of Emergency Medicine, Louisiana State University Medical Center, New Orleans, USA.

Abstract

During the June 1998 heat wave in New Orleans, 8 patients came to the emergency department of a large public hospital over a 14-day period. They were subsequently admitted to the intensive care unit with a diagnosis of heat stroke. On each of these days, the ambient temperature exceeded 33.3 degrees C (91.9 degrees F). Although the highest recorded temperature was only 35.6 degrees C (96 degrees F), the heat index reached a high of 44.5 degrees C (112 degrees F). Weather-related heat illnesses are well documented, but the reports rarely address contributing medications or drugs. In this series, 6 patients (75%) had been using medication or drugs known to induce or worsen hyperthermia. A seventh patient had been prescribed a phenothiazine, but actual use could not be established. An eighth patient had an unidentified agent detected on toxicologic screening. The most common drug identified was cocaine. Other drugs included diphenhydramine, tricyclic antidepressants, and phenothiazines. Six patients (75%) had rhabdomyolysis; 3 of them also had disseminated intravascular coagulation. There were 2 deaths, yielding a 25% mortality rate.

Fattori di rischio socio-economici

Persone che vivono in aree urbane con più di 30.000 abitanti e/o pianura

Persone che vivono da sole e/o in isolamento sociale

Persone che vivono agli ultimi piani di condomini

Basu et al Epidemiol Rev 2002: 24; 190-202

La patologia da calore

Moderata
Rusch cutanei (Heat rash)
Sincopi (Heat syncope)
crampi (Heat cramps)

Elevata
Stress cardio-respiratorio (heat exhaustion)

Severa
Colpo di calore (Heat stroke)

Am Fam Physician. 2005 Jun 1;71(11):2133-40.

Management of heatstroke and heat exhaustion.

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Abstract

Heat exhaustion and heatstroke are part of a continuum of heat-related illness. Both are common and preventable conditions affecting diverse patients. Recent research has identified a cascade of inflammatory pathologic events that begins with mild heat exhaustion and, if uninterrupted, can lead eventually to multiorgan failure and death. Heat exhaustion is characterized by nonspecific symptoms such as malaise, headache, and nausea. Treatment involves monitoring the patient in a cool, shady environment and ensuring adequate hydration. **Untreated heat exhaustion can progress to heatstroke**, a much more serious illness involving central nervous system dysfunction such as delirium and coma. Other systemic effects, including rhabdomyolysis, hepatic failure, arrhythmias, disseminated intravascular coagulation, and even death, are not uncommon. Prompt recognition and immediate cooling through evaporation or full-body ice-water immersion are crucial. Physicians also must monitor electrolyte abnormalities, be alert to signs of renal or hepatic failure, and replace fluids in patients with heatstroke. Most experts believe that physicians and public health officials should focus greater attention on prevention. Programs involving identification of vulnerable individuals, dissemination of information about dangerous heat waves, and use of heat shelters may help prevent heat-related illness. These preventive measures, when paired with astute recognition of the early signs of heat-related illness, can allow physicians in the ambulatory setting to avert much of the morbidity and mortality associated with heat exhaustion and heatstroke.

Geriatr Nurs. 2000 Mar-Apr;21(2):70-7.

Heat waves: their impact on the health of elders.

Worfolk JB.
Fitchburg State College, Fitchburg, Mass., USA.

Abstract

A trend toward more hot and humid summers in the United States raises concern for the health of our elderly population. Older adults are more vulnerable to heat illness than younger people because of dysfunctional thermoregulatory mechanisms, chronic dehydration, medications, and diseases involving the systems that regulate body temperature. **Heat exhaustion, if untreated, will lead to heat stroke, which is fatal if body temperature is not quickly lowered, and research shows that survivors may suffer long-term disabilities.** Prevention requires strong knowledge and application of measures necessary to keep elders healthy in extreme heat. Should illness occur, careful monitoring and assessment will ensure early detection and prompt treatment. This article provides information for caregivers that will enable them to protect their patients from heat illness. It also discusses age-related changes in the thermoregulatory system's response to heat, risk factors, assessment criteria, preventive measures, and first aid for victims of heat exhaustion and heat stroke.

COSA SI DEVE FARE IN RESIDENZA SANITARIA ASSISTENZIALE

Sistemi di Sorveglianza e Prevenzione delle patologie da calore

Consultare i sistemi di allarme (Heat Health Watch Warning Systems) volti alla previsione delle emergenze climatiche.

L'organizzazione territoriale deve essere capace di disporre di una efficace risposta di tutela della salute degli individui a rischio in presenza di segnalazione di emergenza da parte delle autorità sanitarie.

Il sistema di controllo oltre che a rilevare i livelli soglia della temperatura sorveglia la durata della temperatura elevata.

I dati sono disponibili nel sito della protezione civile ed i comuni hanno il compito di diffondere l'informazione a livello locale.

Heat Index: stima il disagio fisiologico a seguito di temperature elevate. L'indice tiene conto della temperatura ambientale ed umidità. E' un ottimo indicatore quando la temperatura ambientale supera i 27°.

J Gerontol A Biol Sci Med Sci. 2007 Jun;62(6):647-51.

A retrospective study on heat-related mortality in an elderly population during the 2003 heat wave in Modena, Italy: the Argento Project.

Foroni M, Salvioli G, Rielli R, Goldoni CA, Orlandi G, Zauli Sajani S, Guerzoni A, Maccaferri C, Daya G, Mussi C.

University of Modena and Reggio Emilia, Nuovo Ospedale Civile S Agostino-Estense, Via Giardini 1135, Baggiovara di Modena, Italy.

Abstract

BACKGROUND: Summer 2003 witnessed an excess in heat-related mortality in the elderly population. The Argento Project was planned to define risk factors for heat-related death in Modena, Italy, during the hottest month of 2003 (August). METHODS: We performed a retrospective, case-control study of a cohort of 394 older persons living in Modena, 197 dead (cases) and 197 survivors (controls). A questionnaire to collect information about demographic, social, environmental, and clinical characteristics and about causes of death was completed. RESULTS: Cases were more likely to be living in a nursing home and needing assistance ($p = .024$, and $p < .001$, respectively). Survivors were living on higher level floors ($p = .046$). Spending the summer in Modena was significantly related to poor outcomes ($p < .01$). A higher number of cases were using public health services ($p < .001$). Individuals who died had a greater degree of comorbidity and dependence ($p < .001$); they were cognitively impaired ($p < .001$), took a larger number of drugs ($p < .001$), and had a greater number of hospital admissions ($p < .001$). Multivariate analysis showed that patients who spent the summer in Modena had a higher mortality. Other predictors of death were the use of home public-integrated assistance, a higher comorbidity and a higher degree of disability; the loss of at least 1 Activity of Daily Living (ADL) represents the strongest risk factor of heat-related death. CONCLUSIONS: Our study identifies the major risk factors of heat-related death in the elderly population. **With the creation of an up-to-date database, when a new heat wave will come, it will be possible to identify frail persons for preventive targeted strategies.**

Aree di intervento in Residenza Sanitaria Assistenziale

SERVIZIO CUCINA
Menù estivo finalizzato all'introduzione di piatti freddi
Ridurre piatti di difficile digeribilità ed ipercalorici
Introduzione di piatti a maggior contenuto idrico e sali minerali
introdurre il gelato come alimento sostitutivo

Ridurre le procedure di manipolazione in cucina per prodotti confezionati
Controllare le modalità di conservazione degli alimenti (frigo, celle frigo, freezer, ecc.)
Utilizzare correttamente i prodotti surgelati
Utilizzare correttamente le procedure di preparazione con particolare attenzione alle preparazioni che richiedono l'abbattimento della temperatura e la successiva rigenerazione.

Aree di intervento in Residenza Sanitaria Assistenziale

ANIMAZIONE

Organizzare interventi ludici finalizzati al massimo coinvolgimento degli ospiti con la presenza di volontari e familiari.

Somministrare liquidi durante le attività.

Aree di intervento in Residenza Sanitaria Assistenziale

ASSISTENZA

Rivalutazione clinica periodica dei fattori di rischio.

Controllo Infermieristico: urine, cute in particolare per le lesioni tipiche a causa della maggior sudorazione.

Rivalutazione Terapeutica.

Implementare durante la giornata, compresa la notte, l'idratazione con acqua fresca,Te fresco, Polase, ecc..

Verificare la disponibilità di Ghiaccio medicale

Modalità di abbigliamento (favorire abiti in cotone e lino evitando abiti in fibre sintetiche che aumentano la sudorazione, compreso la biancheria da letto).

Controllare la temperatura ambientale e dare comunicazione agli uffici preposti degli eventuali problemi.

Implementare gli interventi di igiene personale durante i mesi estivi (bagni, docce, pediluvi).

L’Idratazione negli anziani

Controllo dell’apporto idrico quotidiano per gli anziani a rischio di disidratazione rispetto all’introduzione media consigliata di 1600 ml/24 ore (Joanna Briggs Institute for based nursing and midwifery)

Porre attenzione a segni e sintomi associati come: perdita di peso, febbre, vomito, ipotensione, tachicardia, cambiamento funzioni cognitive, secchezza di occhi e/o bocca, infezioni vie urinarie, cadute, confusione. (AMDA National Guideline Clearinghouse 2001)

Piano di intervento interdisciplinare finalizzato al controllo dei fattori di rischio:

1-Aumentare l’apporto idrico pianificando la distribuzione di liquidi con regolarità

2- Sollecitare verbalmente gli anziani molte volte al giorno, compresa la notte, ad idratarsi secondo le preferenze

3- Presentare liquidi agli anziani periodicamente ogni 1,5 ore

4- Somministra più volte al dì i liquidi agli anziani con disabilità funzionale

5- Associare alla somministrazione dei farmaci anche i liquidi

6- Se l’apporto è ritenuto non adeguato ricorrere alla somministrazione di liquidi per via parenterale e nell’impossibilità per ipodermoclisi.

7- Controllare la quantità e la qualità di urine eliminate

Age Ageing. 2010 Mar;39(2):245-52. Epub 2010 Jan 20.

Heat-related mortality in residents of nursing homes.

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jochen.klenk@uni-ulm.de

Comment in:
Evid Based Nurs. 2010 Jul;13(3):90-1.

Abstract

BACKGROUND: in population-based studies, age and morbidity were associated with heat-related mortality. The nursing home population reveals both factors and may represent a highly vulnerable subgroup. Therefore, temperature-mortality relationship was examined in residents of nursing homes. METHODS: the association between daily ambient maximum temperature and mortality was analysed in 95,808 nursing home residents in southwest Germany between 2001 and 2005. Time series analyses were applied across age groups, sex and functional abilities. In addition, excess mortality was determined for the 2003 heat wave. RESULTS: mortality risk was lowest at maximum temperatures between 16 and 25.9 degrees Celsius. Risk increased by 26 and 62% at days of 32.0-33.9 and 34 degrees Celsius and more, respectively. In August 2003, heat caused >400 additional deaths in the observed population and was followed by only a moderate mortality displacement in the following months. The excess number of deaths during the heat wave was particularly high in residents aged > or = 90 years and in residents with higher care needs. CONCLUSION: **high ambient temperature was associated with an increased mortality risk in all analysed subgroups of the nursing home population. Medical competence and supervision are available in nursing homes and should, therefore, be favourable preconditions for the implementation of preventive measures.**

J Nutr Health Aging. 2009 Feb;13(2):150-7.

Preventing and treating dehydration in the elderly during periods of illness and warm weather.

Schols JM, De Groot CP, van der Cammen TJ, Olde Rikkert MG.
Nursing Home Medicine, Department of General Practice, Faculty of Health, Medicine and Life Sciences, Maastricht University, Maastricht, The Netherlands.

Abstract

OBJECTIVE: Translate the available knowledge on ageing and dehydration into main messages for clinical practice. MAIN POINTS: Older people are more susceptible to dehydration than younger people. This is partly due to lack of thirst sensation and changes in the water and sodium balance that naturally occur as people age. It is also, to some degree, attributable to the fact that elderly people, both those living at home and those living in institutions, often have various impairments, disabilities and/or handicaps (comorbidity). They also tend to use numerous drugs and medication for these illnesses (polypharmacy). Multimorbidity and polypharmacy often overstress the normal age-related physiological changes in the water and sodium balance and therefore increase elderly people's risk of dehydration,especially during intercurrent infections or warm weather. Elderly people, whether they are living on their own or in an institution, and especially elderly people that can no longer take care of themselves because of cognitive, sensory, motor and/or ADL impairments, need extra help to stay hydrated. The most important strategy is simply a matter of ensuring that elderly people consume a sufficient amount of fluids (at least 1.7 liters every 24 hours). Additional strategies include making healthy drinks and water easily available and accessible at all times and reminding and encouraging the elderly to consume these fluids. Elderly people should not be encouraged to consume large amounts of fluids at once but rather small amounts throughout the day. When the recommended fluid intake cannot, for whatever reason, be realized, fluids can be administered via catheter or by hypodermoclysis. In more specific and severe cases, fluids can be administered intravenously. CONCLUSION: **The prevention, signaling and treatment of dehydration in the elderly is an important multidisciplinary endeavor. Formal and informal care providers need to continuously be aware of the risk factors and signs of dehydration in the elderly, especially during periods of very warm weather and when older people are ill. Standard professional care for high risk patients is imperative.**

J Am Med Dir Assoc. 2004 Mar-Apr;5(2):138-9.

Elevated temperature and nursing home mortality during 2003 European heat wave.

Rozzini R, Zanetti E, Trabucchi M.

However, as a first observation, we would like to stress the difference in mortality between the first period (June and Yuly) in comparison with the month of August. It could be inferred that the natural reserve of very old and frail person “burns out” after many days of high temperature. The homeostatic mechanisms wear out, even in the presence of good care if the temperature is too high.

At, present, our health authorities are providing the financial support for installation of air conditioning systems in all NHs.

Impianto di refrigerazione

Essi modificano la temperatura ambientale e l’umidità.

L’unità refrigerante è costituita da una parte evaporante e da una parte condensante con un pannello di comando e controllo per mantenere correttamente refrigerato l’ambiente.

E’ consigliato impostare una temperatura ambientale tra 24° e 26°.

Indici rilevati

Temperatura meteorologica (Ombra)
Umidità

Sensazione calore percepito
Esistono tabelle che definiscono il dato.
Per esempio per temperature di 18° con umidità 70% corrisponde una temperatura percepita di 21°.

L’analisi della tabella mostra come la temperatura percepita al di sopra di 24° varia moltissimo in rapporto all’umidità.
Per esempio a una temperatura di 15° l’umidità è poco rilevante, in quanto la temperatura percepita con umidità del 90% corrisponde a 18,5°, mentre a temperatura di 25° la stessa umidità determina una temperatura percepita di 39°.

Impianto di refrigerazione

Mantenere le finestre chiuse durante il funzionamento dei condizionatori.
Utilizzare protezioni alle finestre o vetrate per evitare esposizione diretta al sole.
Evitare di regolare temperatura interna troppo bassa rispetto all'esterna,
tra 24°-26° e adeguata umidità (Taylor NA).
Valutare solo l'azione deumidificante nelle aree dove la temperatura non è elevata.
La velocità dell'aria nel volume occupato deve essere inferiore a 0,15 m/sec.
I terminali di mandata e di ripresa dell'impianto devono essere collocati a distanza idonea dai luoghi di permanenza delle persone.
Occorre porre attenzione ai processi di manutenzione definiti dal costruttore ed in particolare pulire periodicamente i filtri ed il sistema per evitare la messa in circolo di polveri e scorie.
Controllo del fluido refrigerante, della sicurezza antincendio e il rumore.
Per i sistemi che utilizzano l'acqua per la regolazione dell'umidità oltre alla necessaria manutenzione devono disporre di protocollo di gestione del sistema per evitare complicanze infettive alle persone.

J Long Term Care Adm. 1981 Fall;9(3):23-39.

Energy management in long-term care facilities: a hot or cold issue?

Smith HL, Discenza R.

Abstract

Conservation of energy resources through total energy management programs is receiving considerable attention in the health services sector. **Although the total energy management concept has been favorably implemented in hospitals, the record is not entirely clear for other health care institutions.** Thirty-one Arizona and 37 Minnesota long-term care facilities were surveyed to examine the attitudes, knowledge and practice of energy management in the nursing home context. Specific questions were directed toward average monthly energy costs, energy consumption, energy conservation methods implemented, energy conservation methods planned for future implementation, and administrator attitudes on the energy management problem. The results of this study indicate that energy is not perceived to be a major problem in long-term care facilities. **Administrators generally lack basic knowledge about energy consumption and energy-related characteristics of their facilities**. Few long-range plans and programs have been established to address energy problems. **These results suggest the need for new energy policies in the health care system, particularly for institutions other than hospitals.**

Fondazione Bresciana di Iniziative Sociali

Postiletto Totali 448 di cui 23 non accreditati.

Andamento Incidenza mortalità Mensile:

Giugno 2009	Numero Decessi 10
Luglio 2009	Numero Decessi 11
Agosto 2009	Numero Decessi 14
Settembre 2009	Numero Decessi 09
Ottobre 2009	Numero Decessi 14
Novembre 2009	Numero Decessi 10
Dicembre 2009	Numero Decessi 14
Gennaio 2010	Numero Decessi 19
Febbraio 2010	Numero Decessi 12
Marzo 2010	Numero Decessi 13
Aprile 2010	Numero Decessi 15
Maggio 2010	Numero Decessi 15
Giugno 2010	Numero Decessi 13
luglio 2010	Numero Decessi 11