



Eight Essential Foods in Iranian Traditional Medicine and their Role in Health Promotion and Well-being

Mehrdad Zeinalian, Mehdi Eshaghi, Mahdi Hadian, Homayoun Naji, Sayed Mohammad Masoud Marandi, Sedigheh Asgary¹

Entekhab Cancer Control Center, ALA Charity Foundation, Isfahan, Iran, ¹Isfahan Cardiovascular Research Center, Cardiovascular Research Institute, Isfahan University of Medical Sciences, Isfahan, Iran

Correspondence to:

Dr. Sedigheh Asgary, Isfahan Cardiovascular Research Center, Cardiovascular Research Institute, Isfahan University of Medical Sciences, Isfahan, Iran.
E-mail: sasgary@yahoo.com

How to cite this article: ???

ABSTRACT

Eight essential foods (EEF) described in Iranian traditional medicine (ITM) have a determinant role to balance human temperament insuring health and well-being. EEF included oral, imaginary, auditory, visual, olfactory, touch, sexual, and familiarity food. Oral foods should be halal, compatible with individual temper, consumed up twice a day, and compatible with different seasons and geographic conditions. Imaginary food consists of the individual thought content which is directly related to mental and physical fitness. It helps to balance temperament if be free of negative thoughts such as suspicion and distrust to others. Auditory food includes all sounds surrounding us, some of which are sedative and help to balance temperaments, such as natural sounds, and spiritual and beautiful words. Visual food includes everything in the range of human vision which is impressive on his/her thought. Natural beautiful scenes have almost a warm temper and help to balance human temperament. Olfactory food includes odors which stimulate the smell. Touch food includes all materials in direct contact with body skin, like clothes, which have a determinant role in temper moderation in the case of being natural. Sexual food complies with the human need to express his/her love and/or is loved, so its fulfillment could prevent human mal-temperament. Familiarity food can be provided by companion with friends and family members and has a significant role to insure well-being. Given the comprehensiveness of EEF in ITM which covers all human health-related aspects, we can insure health and well-being among our population by promoting and public educating of these principles.

Keywords: Eight essential foods, health promotion, Iranian traditional medicine

INTRODUCTION

Today, given the increasing the diseases throughout the world and insufficiency of health-related resources, particularly among underdeveloped countries, traditional

medicines have been recommended by the World Health Organization (WHO) as complementary or alternative for current classic medicine. Inefficiencies of most therapeutic methods in the current medicine, particularly for some chronic refractory disorders, such as cancer, has been a main impellent for this advice.^[1]

Iranian traditional medicine (ITM) is an ancient, comprehensive school (*Maktab*) with a several 1000 years

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

Access this article online	
Quick Response Code:	Website: www.ijpvmjournal.net/www.ijpm.ir
	DOI: ***

history which has been rooted in the boundless land of knowledge and experiences of many great scientists during many centuries. Every one of these scientists has had a significant role in promoting of the human knowledge.^[2]

Islamic medicine was inspired of the Holy Quran and Ahlul-Bayt doctrine. It was integrated with ITM after rising of Islam among Iranian populations, leading to born of ITM.^[3] One of the most significant differentiation sides of ITM school compared to other medical schools is essential role of health prevention and preservation, so the medicine has been described by Avicenna, a great ancient Iranian scientist, as the following comprehensive definition: "The health maintenance when you are healthy, and its restoration when you are sick."^[4]

ITM scholars believe that human health would be fulfilled when all four natural body fluids: blood, phlegm, yellow bile, and black bile are in a balanced state. This balance is prepared through three to four digestive processes through gastrointestinal tract, liver, blood, and cells. Chronic mal-temperament (*Soo-e-mizaj*) could disrupt the natural physiological processes in human body, leading to different physical and mental disorders.^[4-6] These are preventable by observing health-related rules in ITM, particularly eight essential foods (EEF) which are described in this article, according to the ancient medical resources within ITM.^[7-9]

CURRENT RESULTS

EEF (*Aghzieh-ye Thamanieh*) along with six essential rules (SER) (*Sitteh-e-Zarurieah*) are the most important principles to maintain human health, according to ITM, which have been defined as *Hefz-o-ssehhah*. SER, the most essential preventive rules in ITM, includes air (*Hava*), body movement and repose, sleep and wakefulness, food and drink, evacuation and retention, and mental movement and repose (*A'raz-e-Nafsani*).^[4,10] These essentials are comprehensive covering all sides of human health. Meanwhile, EEF includes all physical and mental inputs whose preservation would insure the human health. These essential foods are as follows.

Oral food

Oral food includes all edibles and drinks which usually are consumed by a person. According to ITM, oral food must have some properties to ensure fitness. It, at first, should be *Halal*,^[11,12] hence, it would be obtained through loyal legitimate way and its eating would be allowed by religion. ITM scholars believe that Lord has not put the human health in unlawful and ill-gotten food.^[13] Second, oral food should be compatible with individual temper to reach the best physical and mental fitness. Otherwise, it can lead to mal-temperament, a condition that makes the people susceptible to illness. According to ITM, every

edible has a specific temper, and it is better to consume with its corrector (*Mosleh*). For example, fish and yogurt have a cold temper and should be used with hot spices such as pepper, cinnamon, ginger, and mint. Meanwhile, simultaneous consumption of two or more food with similar temper is forbidden in ITM; so, for example, fish and yogurt should not be eaten with each other.^[5,14,15] The food's temper should be also compatible with the season. Because, according to ITM, every season has a specific temper. For example, winter has a cold-wet temper, so consumption of hot-dry foods in this season is more compatible with fitness. In addition, different geographic conditions of the habitat influence on the human temper. For example, if cold-dry foods are consumed in regions with hot and wet weather, the human health would be more insurable. Third, the food, if possible, should be gentle (*Latif*) righteous chime (*Saleh chime*), and nutritious (*Kasirol-ghaza*). This means that it is easy to digest and absorb, its digestion creates normal blood and humor, and it has sufficient nutrients to meet the body needs.^[14,15]

Fourth, ITM scholars emphasize on the quantity of oral food. According, the best program for the main meals is consumption up twice a day, a full meal in the morning, and the second one in the evening.^[8,12] Fruits and other proper edibles can be eaten for lunch and other snack times. General principle is this gold sentence: "Never eat anything unless you feel absolutely hungry, and stop eating before you get absolutely full," according to the Imam Ali.^[16] Fifth, some healthy behaviors toward oral food have been recommended by ITM scholars to keep us healthy which include well chewing and mastication, hand washing before and after the meal, start the eating with the name of god, beginning the meal with a bit of salt, and finishing it with a little of sweets.^[7,8]

Imaginary food

According to ITM, individual thought content, either positive or negative, is considered as imaginary food. It influences directly on mental and physical fitness and could disturb the balanced temperament. Positive thoughts and feeling like self-confidence, reliance to God, trust to others, kindness and love, etc., all have a positive effect on the human health and well-being. Reversely, negative thoughts and feeling such as frustration and disappointment, pessimism and distrust to others, diffidence, etc., are considered as a pest against health and reasons for mal-temperament.^[6,15,17] Today, many studies have explored the significant role of meditation interventions to heal the chronic diseases, either physical or psychological.^[18-20] Meditation is a practice to train the mind or to induce a consciousness state, either to appreciate some advantage or for the mind to simply admit its content without becoming recognized with that content or as an end in itself.^[6] It refers to a wide range of drills including techniques planned to promote

relaxation, make internal energy or life force (qi, ki, prana, etc.) and develop compassion, love, patience, generosity, and forgiveness.^[6]

Auditory food

All sounds surrounding us are considered as the auditory food, according to ITM. Some of these sounds are sedative and lead to the balanced temperament, for example, natural sounds such as sounds river falls, sounds of rain, and song birds; spiritual and beautiful words such as song *Qari Quran*, sounds of worship, names of God; and eastern music such as song straw and song def. Vice versa, inharmonic industrial sounds, such as traffic sound, train horn, and factory siren; ugly and unworthy words, such as cuss and curse words; and nearly all western music, such as jazz lead to an imbalanced temperament.^[7-9] Lord says in Holy *Quran*: "Verily in the remembrance of Allah do hearts find rest!"^[21] Accordingly, every word, sentence, sound, etc., by which we remember Lord could calm down us, an example for auditory food.

In recent decades, a Japanese scientist, Masaru Emoto, explored the significant effect of sounds and words to form molecular structure of water so that positive thoughts and words lead to beautiful regular molecular structure and reversely, negative thoughts and words cause asymmetric irregular molecular structure in water crystals.^[22-25] Moreover, today the role of music therapy has been determined to reduce pain and other physical and psychological problems in several conditions, according to many studies.^[26-30]

Visual food

According to ITM scholars, everything that is in the range of human vision can be considered as visual food. What a person sees affects his/her mind and thought. Natural beautiful scenes such as mountains, forest, sea, river, etc., have almost a warm temper and help to balance human temperament. Reversely, all ugly and nasty scenes such as the view of accumulated waste could disturb the human temperament and have negative effects on fitness.^[7,8]

One study on 72 undergraduate students showed that natural views improve attentional performance in them.^[31] Another study presented that natural view through a window could accelerate recovery from surgery in patients.^[32] Natural view has also showed a positive effect on psychological well-being and reduction of stress in persons.^[33-35] Seeing violence views, however, has induced negative effects on well-being.^[28,36]

Moreover, every color is actually a visible light which affect persons in different ways, so different persons show variable reactions to each color. Color therapy or chromotherapy is an ancient branch of alternative medicine with more than several 1000 years oldness rooted in ancient Egypt.^[37-39] Recent studies have determined that every color could affect human emotions to different amounts.^[40,41]

Olfactory food

Olfactory food includes all scents and odors around us which could stimulate the smell. Natural fragrant odors such as the scent of fresh flowers have often a warm temper and help to improve humor and moderate the temperament. For example, breathing of a gentle fragrance of flowers in cold seasons which have cold temper could moderate the temper and help to reinforce of central nervous system.^[7] On the other hand, unnatural chemical odors like cologne have almost a cold temper leading to brain coldness disorders such as depression and dementia.^[7-9]

Aromatherapy is one of the ancient medical sciences according which many of human diseases are treated through essential oils obtained from natural herbs. Today, these natural oils are widely used in developed countries. Moreover, the WHO has approved the aromatherapy as a complementary medicine technique since 1992, and a large body of literature is emerging within research studies about it.^[42] For example, many studies have run after 2000 which have determined the significant efficacy of the aromatherapy in treatment of sleep disorders.^[43-46] In addition, the effectiveness of aromatherapy for stress management has been shown in recent several randomized clinical trials.^[47,48] Aromatherapy has also presented a significant efficacy to treat the hypertensive patients, according to some recent studies.^[49]

Touch food

Touch food includes all objects and materials that are in direct contact with body skin, such as textiles and clothes, which have a determinant role in temper moderation in case of being natural. According to ITM resources, the material of clothes has a determinant role to the human well-being. For example, wearing of cotton or linen clothes has been recommended by ITM scholars, and adversely, wool, hair, and chemical clothes have been forbidden for wearing.^[7-9]

According to many studies, it has been determined that chemical textiles such as polyester have negative effects on human health.^[50,51] There are also some research evidences toward negative effects of wooly and hairy clothes on human fitness.^[52] For example, studies have shown a higher severity of microbial burden in polyester textiles compared to cotton ones.^[51] Moreover, the prevalence of contact dermatitis in polyester and other chemical clothing has been reported more than natural clothing, particularly cotton.^[53] In addition, the sexual activity of men with polyester underclothing has been less than men with cotton underclothing.^[54]

Sexual food

According to ITM, every person naturally needs sexual food; hence, a healthy human should be able to express his/her love to others and/or also be loved by them. It is beyond the sexual activity alone and includes all

romantic behaviors in a person. Accordingly, sexual fulfillment could insure human fitness and prevent mal-temperament.^[7-9]

Studies have determined that sexual satisfaction has a significant effect to keep human health.^[55,56] Meanwhile, romantic relationships are considered as natural psychological behaviors; so without it, mental and psychological well-being would not be prepared.^[57,58]

Loving and the sense of belongingness have a determinant role on emotional aspects of human personality and on cognitive processes. Without love and belongingness, health, adjustment, and well-being are in danger.^[25]

Familiarity food

Familiarity food can be provided by companion with friends, relatives, and family members; so according to Islamic resources and psychological studies it has a significant role to prevent of diseases and increase human life time. Based on Islamic doctrine, the human is naturally social and the path of his/her evolution passes through community.^[59] Mental fitness and relaxation, and friendship have been mentioned as the main goal of marriage in Holy Quran.^[60] A well-structured family has an important role to keep and promote personal and social human fitness. Divorce and other familial disrupting events have significant deleterious effect on human health, according to many recent studies.^[61-64] Social isolation and staying away from the community and family could lead to harmful effects on the human fitness, particularly within mental health; the fact that many studies have approved it.^[65,66] Today, the role of friendship and social advocacy in health, particularly in later life, has been determined;^[67] so, friendship is considered as an important health factor in health-related studies.^[68]

CONCLUSIONS

We are recommended by Iranian-Islamic traditional medicine to observe EEF for health promotion and well-being. These essentials are oral food, including all usual edibles and drinks; imaginary food, including individual thought content; auditory food, including all usual surrounding sounds; visual food, consisting of everything in the range of our vision; olfactory food, containing all odors which stimulate our smell; touch food, consisting of all materials with direct contact to our skin; sexual food to response our love needs; and familiarity food, friendship relations with friends and family members. Our temperament would be balanced, ensuring our health and well-being, if we observe some considerations toward EEF. Our oral food must be *Halal*, nutritious, compatible to our temper, and proper to digest and absorb. Imaginary food must be free of any negative thoughts. Auditory food should be included more natural

sedative sounds and spiritual and beautiful words. Visual food should be full of more natural beautiful scenes. Olfactory food is better to be opulent of natural fragrant odors. Touch food should be natural such as cotton and linen to moderate our temper. Our sexual food should be fulfilled by proper lovely relations. Familiarity food must be prepared by friendly companion with friends and family members. Since these essential advices cover all health-related aspects of our life, promoting them could lead to health promotion and well-being in our community.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Received: 29 May 16 Accepted: 31 Oct 16

Published: ***

REFERENCES

1. World Health Organization. WHO Traditional Medicine Strategy: 2014-2023. Geneva: World Health Organization; 2013.
2. Brown E. Islamic Medicine. 5th ed. Tehran: Scientific and Cultural Publication; 1992.
3. Najmabadi M. History of medicine in Iran after Islam. Tehran: Tehran University; 1987.
4. Hatami H. Public health and preventive medicine according to Avicenna. Sci J Islam Repub Iran Med Counc 2000;18:223-38.
5. Akbarzadeh A, Salehi A, Nimrouzi M. Preventive medicine in view of Hakim Jorjani. J Med Hist 2012;13:39-54.
6. Yousefifard M, Parviz M, Hosseini M, Ebadiani M, Keshavarz M. Mizaj; past, present and future. Physiol Pharmacol 2013;16:328-39.
7. Naseri M, Rezayizadeh H, Choupani R, Anoushirvani M. A review on Iranian traditional medicine principles. 10th ed. Tehran: Iranian Traditional Medicine Publication; 2013. p. 1392.
8. Jorjani S. "Zakhireye Kharazmshahy" Correction by Muhammad Reza Moharrari. Islamic Academy of Medical Sciences Iran; 2001.
9. Sina I, Hi A. Al Ghanoun Fi Al Teb. Beirut: Al Elmy Lel Matbuat Institute; 2005.
10. Ahwazi Al. Kamel Alsanah Altabyh. Tehran: Institute of Medicine's History Studies on Islamic and Complementary Medicine; 2008.
11. Rezaeizadeh H, Alizadeh M, Naseri M, Ardakani MS. The traditional Iranian medicine point of view on health and disease. Iran J Public Health 2009;38 Suppl 1:169-72.
12. Khan MS. Islamic Medicine. New York: Routledge; 2013.
13. Esmaili SS, Fallahi F, Nourmohammadi GR. Introduction of "Razavi nutritional model" according to Resaleye Zahabiah of Imam Reza. Islam Iran Tradit Med J 2012;3:275-84.
14. Borhani M, Khoshzaban F, Jodeiri B, Naseri M, Kamalinejad M. Diet and food in Iranian traditional medicine: Hints for further research. Int J Prev Med 2014;5:1480-1.
15. Nimrouzi M, Zare M. Principles of nutrition in Islamic and traditional Persian medicine. J Evid Based Complement Alternat Med 2014;19:267-70.
16. Ehsanbakhsh S. Asaro-l-Sadeghin (Arabic-Farsi). Vol. 2. Gilan. 1374; 1995. p. 378.
17. Mozaffarpur SA, Shirafkan H, Taghavi M, Mirzapor M. Investigating the difference between principals of Iranian traditional medicine and modern medicine for providing a model for integrated medicine. Islam Health J 2014;1:10-5.
18. Chan RR, Larson JL. Meditation interventions for chronic disease populations: A systematic review. J Holist Nurs 2015;33:351-65.
19. Chiesa A, Serretti A. Mindfulness-based interventions for chronic pain: A systematic review of the evidence. J Altern Complement Med 2011;17:83-93.
20. Hofmann SG, Sawyer AT, Witt AA, Oh D. The effect of mindfulness-based

- therapy on anxiety and depression: A meta-analytic review. *J Consult Clin Psychol* 2010;78:169-83.
21. Quran H. Chapter: Al-Rad, Versus: 28.
 22. Emoto M. *Messages from Water*. Leiden: Hado Publishing; 1999.
 23. Emoto M. *The True Power of Water*. Hillsboro, OR: Beyond Words Publishing; 2005. p. 20.
 24. Emoto M. *The Hidden Messages in Water*. New York: Simon and Schuster; 2011.
 25. Emoto M. *The Secret Life of Water*. New York: Simon and Schuster; 2011.
 26. Baumeister RF, Leary MR. The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychol Bull* 1995;117:497-529.
 27. Li HC, Wang HH, Chou FH, Chen KM. The effect of music therapy on cognitive functioning among older adults: A systematic review and meta-analysis. *J Am Med Dir Assoc* 2015;16:71-7.
 28. Buckner JC, Beardslee WR, Bassac EL. Exposure to violence and low-income children's mental health: Direct, moderated, and mediated relations. *Am J Orthopsychiatry* 2004;74:413-23.
 29. Matthews S. Dementia and the power of music therapy. *Bioethics* 2015;29:573-9.
 30. Zhou K, Li X, Li J, Liu M, Dang S, Wang D, et al. A clinical randomized controlled trial of music therapy and progressive muscle relaxation training in female breast cancer patients after radical mastectomy: Results on depression, anxiety and length of hospital stay. *Eur J Oncol Nurs* 2015;19:54-9.
 31. Tennesen CM, Cimprich B. Views to nature: Effects on attention. *J Environ Psychol* 1995;15:77-85.
 32. Ulrich RS. View through a window may influence recovery from surgery. *Science* 1984;224:420-1.
 33. Ulrich RS. Visual landscapes and psychological well-being. *Landsc Res* 1979;4:17-23.
 34. Ulrich RS, Simons RF, Losito BD, Fiorito E, Miles MA, Zelson M. Stress recovery during exposure to natural and urban environments. *J Environ Psychol* 1991;11:201-30.
 35. Velarde MD, Fry G, Tveit M. Health effects of viewing landscapes-landscape types in environmental psychology. *Urban Forestry Urban Greening* 2007;6:199-212.
 36. Lund CM. *The perceptions of violence and its effects on the psychological well-being of primary school children*. Cape Town: University of the Western Cape; 2009.
 37. Anderson JM Jr. *Color and Healing*. Bozeman: Montana State University-Bozeman, College of Arts & Architecture; 2010.
 38. Clark LA. *The ancient art of color therapy*. New York: Pocket Books; 1975.
 39. Withrow RL. The use of color in art therapy. *J Humanist Couns Educ Dev* 2004;43:33-40.
 40. Naz K, Epps H. Relationship between color and emotion: A study of college students. *Coll Stud J* 2004;38:396.
 41. Valdez P, Mehrabian A. Effects of color on emotions. *J Exp Psychol Gen* 1994;123:394.
 42. Buckle S. Aromatherapy and massage: The evidence: Sandra Buckle considers the safety and efficacy of the use of aromatherapy and massage by children's nurses. *Paediatr Care* 2003;15:24-7.
 43. Hwang E, Shin S. The effects of aromatherapy on sleep improvement: A systematic literature review and meta-analysis. *J Altern Complement Med* 2015;21:61-8.
 44. Choi IR. Effects of aromatherapy massage on pain, physical function, sleep disturbance and depression in elderly women with osteoarthritis. *Korean J Women Health Nurs* 2006;12:168-76.
 45. Lee IS, Lee GJ. Effects of lavender aromatherapy on insomnia and depression in women college students. *Taehan Kanho Hakhoe Chi* 2006;36:136-43.
 46. Moeini M, Khadibi M, Bekhradi R, Mahmoudian SA, Nazari F. Effect of aromatherapy on the quality of sleep in ischemic heart disease patients hospitalized in Intensive Care Units of heart hospitals of the Isfahan University of Medical Sciences. *Iran J Nurs Midwifery Res* 2010;15:234-9.
 47. Hur MH, Song JA, Lee J, Lee MS. Aromatherapy for stress reduction in healthy adults: A systematic review and meta-analysis of randomized clinical trials. *Maturitas* 2014;79:362-9.
 48. Fung JK, Tsang HW, Chung RC. A systematic review of the use of aromatherapy in treatment of behavioral problems in dementia. *Geriatr Gerontol Int* 2012;12:372-82.
 49. Hur MH, Lee MS, Kim C, Ernst E. Aromatherapy for treatment of hypertension: A systematic review. *J Eval Clin Pract* 2012;18:37-41.
 50. Shafik A. Polyester but not cotton or wool textiles inhibit hair growth. *Dermatology* 1993;187:239-42.
 51. Callewaert C, De Maeseneire E, Kerckhof FM, Verliefde A, Van de Wiele T, Boon N. Microbial odor profile of polyester and cotton clothes after a fitness session. *Appl Environ Microbiol* 2014;80:6611-9.
 52. Siddappa K. Dry skin conditions, eczema and emollients in their management. *Indian J Dermatol Venereol Leprol* 2003;69:69-75.
 53. Sowa J, Kobayashi H, Tsuruta D, Sugawara K, Ishii M. Allergic contact dermatitis due to adipic polyester in vinyl chloride gloves. *Contact Dermatitis* 2005;53:243-4.
 54. Shafik A. Effect of different types of textiles on male sexual activity. *Syst Biol Reprod Med* 1996;37:111-5.
 55. Carcedo RJ, Perlman D, López F, Orgaz MB, Fernández-Rouco N. The relationship between sexual satisfaction and psychological health of prison inmates: The moderating effects of sexual abstinence and gender. *Prison J* 2015;95:43-65.
 56. McCall-Hosenfeld JS, Freund KM, Legault C, Jaramillo SA, Cochrane BB, Manson JE, et al. Sexual satisfaction and cardiovascular disease: The Women's Health Initiative. *Am J Med* 2008;121:295-301.
 57. Furman W. The emerging field of adolescent romantic relationships. *Curr Dir Psychol Sci* 2002;11:177-80.
 58. Braithwaite SR, Delevi R, Fincham FD. Romantic relationships and the physical and mental health of college students. *Pers Relationsh* 2010;17:1-12.
 59. Nahj-ol-Balaghah. Imam Ali, Corrected Version by Mohammad Dashti, Khotbah: 127.
 60. Quran H. Chapter: Al-Room, Versus: 21.
 61. Koenig HG. Religion, spirituality, and medicine: Research findings and implications for clinical practice. *South Med J* 2004;97:194-200.
 62. Jafari M, Alizadeh F, Zafarghandi N, Abyar Z. Financial relation between physician and patient in medicine. *Iranian Traditional Medicine* 2011;19:73-80. [In Persian].
 63. Reiss S. Multifaceted nature of intrinsic motivation: The theory of 16 basic desires. *Rev Gen Psychol* 2004;8:179.
 64. Rocha AC, Ciosak SI. Chronic disease in the elderly: Spirituality and coping. *Rev Esc Enferm USP* 2014;48:87-93.
 65. Claes M. The role of friendship on the development and mental health of adolescents. *Sante Ment Que* 1988;13:112-8.
 66. Yoshikawa H, Wilson PA, Chae DH, Cheng JF. Do family and friendship networks protect against the influence of discrimination on mental health and HIV risk among Asian and Pacific Islander gay men? *AIDS Educ Prev* 2004;16:84-100.
 67. Ferraro KF, Mutran E, Barresi CM. Widowhood, health, and friendship support in later life. *J Health Soc Behav* 1984;25:246-59.
 68. Couzin J. Social science. Friendship as a health factor. *Science* 2009;323:454-7.