

BIBLIOGRAPHY

13.0. Bibliography

Aaseth J, Skaug MA, Cao Y, Andersen O. Chelation in metal intoxication—principles and paradigms. *Journal of Trace Elements in medicine and Biology*. 2015 Jul 1;31:260-6.

Abernathy CO, Liu YP, Longfellow D, Aposhian HV, Beck B, Fowler B, Goyer R, Menzer R, Rossman T, Thompson C, Waalkes M. Arsenic: health effects, mechanisms of actions, and research issues. *Environmental health perspectives*. 1999 Jul;107(7):593-7.

Acharyya N, Deb B, Chattopadhyay S, Maiti S. Arsenic-induced antioxidant depletion, oxidative DNA breakage, and tissue damages are prevented by the combined action of folate and vitamin B₁₂. *Biological trace element research*. 2015 Nov 1;168(1):122-32.

Acharyya N, Sajed Ali S, Deb B, Chattopadhyay S, Maiti S. Green tea (*Camellia sinensis*) alleviates arsenic-induced damages to DNA and intestinal tissues in rat and in situ intestinal loop by reinforcing antioxidant system. *Environmental toxicology*. 2015 Sep;30(9):1033-44.

Acharyya SK, Chakraborti P, Lahiri S, Raymahahasay BC, Guha S, Bhoumik A. Arsenic poisoning in the Ganges delta. *Nature*. 1999 Oct;401(6753):545-7..

Acharyya SK. Arsenic contamination in groundwater affecting major parts of southern West Bengal and parts of western Chhattisgarh: Source and mobilization process. *Current Science*. 2002 Mar 25:740-4.

Agarwal A, Muñoz-Nájjar U, Klueh U, Shih SC, Claffey KP. N-acetyl-cysteine promotes angiostatin production and vascular collapse in an orthotopic model of breast cancer. *The American journal of pathology*. 2004 May 1;164(5):1683-96.

Akinrinde AS, Olowu E, Oyagbemi AA, Omobowale OT. Gastrointestinal protective efficacy of Kolaviron (a bi-flavonoid from *Garcinia kola*) following a single administration of sodium arsenite in rats: Biochemical and histopathological studies. *Pharmacognosy research*. 2015 Jul;7(3):268-76.

Akter KF, Owens G, Davey DE, Naidu R. Arsenic speciation and toxicity in biological systems. In *Reviews of environmental contamination and toxicology 2005* (pp. 97-149). Springer, New York, NY.

Amorim EM, Damous LL, Durando MC, Saraiva MV, Koike MK, Montero EF. N-acetylcysteine improves morphologic and functional aspects of ovarian grafts in rats. *Acta cirurgica brasileira*. 2014;29:22-7.

Andersen O. Chemical and biological considerations in the treatment of metal intoxications by chelating agents. *Mini reviews in medicinal chemistry*. 2004 Jan 1;4(1):11-21.

Andreassi MG, Cioppa A, Manfredi S, Neri MG, Foffa I, Picano E. N-acetyl cysteine reduces chromosomal DNA damage in circulating lymphocytes during cardiac catheterization procedures: A pilot study. *International journal of cardiology*. 2012 Nov 15;161(2):93-6.

Aposhian HV, Zakharyan RA, Avram MD, Kopplin MJ, Wollenberg ML. Oxidation and detoxification of trivalent arsenic species. *Toxicology and applied pharmacology*. 2003 Nov 15;193(1):1-8.

Aposhian HV. DMSA and DMPS-water soluble antidotes for heavy metal poisoning. *Annual Review of Pharmacology and Toxicology*. 1983 Apr;23(1):193-215.

Arakawa M, Ito Y. N-acetylcysteine and neurodegenerative diseases: basic and clinical pharmacology. *The Cerebellum*. 2007 Dec 1;6(4):308-14.

Arakawa M, Ushimaru N, Osada N, Oda T, Ishige K, Ito Y. N-acetylcysteine selectively protects cerebellar granule cells from 4-hydroxynonenal-induced cell death. *Neuroscience research*. 2006 Jul 1;55(3):255-63.

Aronson SM. Arsenic and old myths. *Rhode Island medicine*. 1994 Jul;77(7):233-4.

Aruoma OI, Halliwell B, Hoey BM, Butler J. The antioxidant action of N-acetylcysteine: its reaction with hydrogen peroxide, hydroxyl radical, superoxide, and hypochlorous acid. *Free radical biology and medicine*. 1989 Jan 1;6(6):593-7.

Asiedu P, Moulton T, Blum CB, Roldan E, Lolocono NJ, Graziano JH. Metabolism of meso-2, 3-dimercaptosuccinic acid in lead-poisoned children and normal adults. *Environmental health perspectives*. 1995;103(7-8):734-9.

Atkuri KR, Mantovani JJ, Herzenberg LA, Herzenberg LA. N-Acetylcysteine—a safe antidote for cysteine/glutathione deficiency. *Current opinion in pharmacology*. 2007 Aug 1;7(4):355-9.

ATSDR. Toxicological Profile for Arsenic. Atlanta, Georgia. 2007.

Bae-Jump VL, Zhou C, Boggess JF, Gehrig PA. Arsenic trioxide (As₂O₃) inhibits expression of estrogen receptor—alpha through regulation of the mitogen-activated protein kinase (MAPK) pathway in endometrial cancer cells. *Reproductive Sciences*. 2008 Dec;15(10):1011-7.

Bell SG, Vallee BL. The metallothionein/thionein system: an oxidoreductive metabolic zinc link. *Chembiochem*. 2009 Jan 5;10(1):55-62.

Benowitz NL. Cardiotoxicity in the workplace. *Occupational Medicine*. 1992;7:465–78.

Bindal S, Singh CK. Predicting groundwater arsenic contamination: Regions at risk in highest populated state of India. *Water research*. 2019 Aug 1;159:65-76.

Biswas S, Maji C, Sarkar PK, Sarkar S, Chattopadhyay A, Mandal TK. Ameliorative effect of two Ayurvedic herbs on experimentally induced arsenic toxicity in calves. *Journal of ethnopharmacology*. 2017 Feb 2;197:266-73.

Bonanomi L, Gazzaniga A. Toxicological, pharmacokinetic and metabolic studies on acetylcysteine. *European journal of respiratory diseases. Supplement*. 1980;111:45.

Bradberry S, Vale A. A comparison of sodium calcium edetate (edetate calcium disodium) and succimer (DMSA) in the treatment of inorganic lead poisoning. *Clinical toxicology*. 2009 Nov 1;47(9):841-58.

Bradberry S, Vale A. Dimercaptosuccinic acid (succimer; DMSA) in inorganic lead poisoning. *Clinical Toxicology*. 2009 Aug 1;47(7):617-31.

Brandao R, Santos FW, Farina M, Zeni G, Bohrer D, Rocha JB, Nogueira CW. Antioxidants and metallothionein levels in mercury-treated mice. *Cell biology and toxicology*. 2006 Nov 1;22(6):429-38.

Brandt RB, Laux JE, Spainhour SE, Kline ES. Lactate dehydrogenase in rat mitochondria. *Archives of Biochemistry and Biophysics*. 1987 Dec 1;259(2):412-22.

Buchet JP, Lauwerys R, Roels H. Comparison of the urinary excretion of arsenic metabolites after a single oral dose of sodium arsenite, monomethylarsonate, or dimethylarsinate in man. *International archives of occupational and environmental health*. 1981 Feb 1;48(1):71-9.

Bustamante J, Nutt L, Orrenius S, Gogvadze V. Arsenic stimulates release of cytochrome c from isolated mitochondria via induction of mitochondrial permeability transition. *Toxicology and applied pharmacology*. 2005 Sep 1;207(2):110-6.

Campbell JP, Alvarez JA. Acute arsenic intoxication. *American family physician*. 1989 Dec;40(6):93-7.

Campos KE, Diniz YS, Cataneo AC, Faine LA, Alves MJ, Novelli EL. Hypoglycaemic and antioxidant effects of onion, *Allium cepa*: dietary onion addition, antioxidant activity and hypoglycaemic effects on diabetic rats. *International journal of food sciences and nutrition*. 2003 Jan 1;54(3):241-6.

Ceconi C, Curello S, Cargnoni A, Ferrari R, Albertini A, Visioli O. The role of glutathione status in the protection against ischaemic and reperfusion damage:

effects of N-acetyl cysteine. *Journal of molecular and cellular cardiology*. 1988 Jan 1;20(1):5-13.

Celino FT, Yamaguchi S, Miura C, Miura T. Arsenic inhibits in vitro spermatogenesis and induces germ cell apoptosis in Japanese eel (*Anguilla japonica*). *Reproduction*. 2009 Aug 1;138(2):279-87.

Chaineau E, Binet S, Pol D, Chatellier G, Meininger V. Embryotoxic effects of sodium arsenite and sodium arsenate on mouse embryos in culture. *Teratology*. 1990 Jan;41(1):105-12.

Chakraborti D, Mukherjee SC, Pati S, Sengupta MK, Rahman MM, Chowdhury UK, Lodh D, Chanda CR, Chakraborti AK, Basu GK. Arsenic groundwater contamination in Middle Ganga Plain, Bihar, India: a future danger?. *Environmental health perspectives*. 2003 Jul;111(9):1194-201.

Chakraborti D, Rahman MM, Paul K, Chowdhury UK, Sengupta MK, Lodh D, Chanda CR, Saha KC, Mukherjee SC. Arsenic calamity in the Indian subcontinent: what lessons have been learned?. *Talanta*. 2002 Aug 16;58(1):3-22.

Chappell WR, Beck BD, Brown KG, Chaney R, Cothorn R, Cothorn CR, Irgolic KJ, North DW, Thornton I, Tsongas TA. Inorganic arsenic: a need and an opportunity to improve risk assessment. *Environmental health perspectives*. 1997 Oct;105(10):1060-7.

Chatterjee A, Chatterji U. Arsenic abrogates the estrogen-signaling pathway in the rat uterus. *Reproductive Biology and Endocrinology*. 2010 Dec 1;8(1):80.

Chattopadhyay S, Ghosh D. Role of dietary GSH in the amelioration of sodium arsenite-induced ovarian and uterine disorders. *Reproductive Toxicology*. 2010 Nov 1;30(3):481-8.

Chattopadhyay S, Maiti S, Maji G, Deb B, Pan B, Ghosh D. Protective role of *Moringa oleifera* (Sajina) seed on arsenic-induced hepatocellular degeneration in female albino rats. *Biological trace element research*. 2011 Aug 1;142(2):200-12.

Chattopadhyay S, Pal S, Ghosh D, Debnath J. Effect of dietary co-administration of sodium selenite on sodium arsenite-induced ovarian and uterine disorders in mature albino rats. *Toxicological Sciences*. 2003 Oct 1;75(2):412-22.

Chattopadhyay S, Pal SG, Chaki S, Debnath J, Ghosh D. Effect of sodium arsenite on plasma levels of gonadotrophins and ovarian steroidogenesis in mature albino rats: duration-dependent response. *The Journal of Toxicological Sciences*. 1999 Dec 20;24(5):425-31.

Chen S, Ren Q, Zhang J, Ye Y, Zhang Z, Xu Y, Guo M, Ji H, Xu C, Gu C, Gao W. N-acetyl-L-cysteine protects against cadmium-induced neuronal apoptosis by inhibiting ROS-dependent activation of Akt/mTOR pathway in mouse brain. *Neuropathology and applied neurobiology*. 2014 Oct;40(6):759-77.

Cheraghi E, Mehranjani MS, Shariatzadeh MA, Esfahani MH, Ebrahimi Z. N-Acetylcysteine improves oocyte and embryo quality in polycystic ovary syndrome patients undergoing intracytoplasmic sperm injection: an alternative to metformin. *Reproduction, Fertility and Development*. 2016 May 9;28(6):723-31.

Chernoff N, Setzer RW, Miller DB, Rosen MB, Rogers JM. Effects of chemically induced maternal toxicity on prenatal development in the rat. *Teratology*. 1990 Dec;42(6):651-8.

Chiang HS, Guo HR, Hong CL, Lin SM, Lee EF. The incidence of bladder cancer in the black foot disease endemic area in Taiwan. *British journal of urology*. 1993 Mar;71(3):274-8.

Chou CH, Harper C. *Toxicological profile for arsenic*. 2007.

Corcoran GB, Todd EL, Racz WJ, Hughes H, Smith CV, Mitchell JR. Effects of N-acetylcysteine on the disposition and metabolism of acetaminophen in mice. *Journal of Pharmacology and Experimental Therapeutics*. 1985 Mar 1;232(3):857-63.

Corsini E, Asti L, Viviani B, Marinovich M, Galli CL. Sodium arsenate induces overproduction of interleukin-1 α in murine keratinocytes: role of mitochondria. *Journal of investigative dermatology*. 1999 Nov 1;113(5):760-5.

Da Silva RF, Borges CD, Villela e Silva P, Missassi G, Kiguti LR, Pupo AS, Barbosa Junior F, Anselmo-Franci JA, Kempinas WD. The coadministration of N-acetylcysteine ameliorates the effects of arsenic trioxide on the male mouse genital system. *Oxidative medicine and cellular longevity*. 2016 Jan 1;2016.

Das B, Chaudhuri K. Amelioration of sodium arsenite induced toxicity by diallyl disulfide, a bioactive component of garlic: the involvement of antioxidants and the chelate effect. *RSC advances*. 2014;4(40):20964-73.

Das TK. Arsenic Menace in West Bengal (India) and Its Mitigation Through Toolbox Intervention: An Experience to Share. In *Ground Water Development-Issues and Sustainable Solutions 2019* (pp. 305-314). Springer, Singapore.

Dash M, Dey A, Chattopadhyay S. Mitigation of arsenic driven utero-ovarian malfunction and changes of apoptotic gene expression by dietary NAC. *Ecotoxicology and Environmental Safety*. 2020 Aug 1;199:110675.

Dash M, Maity M, Dey A, Perveen H, Khatun S, Jana L, Chattopadhyay S. The consequence of NAC on sodium arsenite-induced uterine oxidative stress. *Toxicology Reports*. 2018 Jan 1;5:278-87.

De Flora S, Grassi C, Carati L. Attenuation of influenza-like symptomatology and improvement of cell-mediated immunity with long-term N-acetylcysteine treatment. *European Respiratory Journal*. 1997 Jul 1;10(7):1535-41.

De Flora S, Rossi GA, De Flora A. Metabolic, desmutagenic and anticarcinogenic effects of N-acetylcysteine. *Respiration*. 1986;50(Suppl. 1):43-9.

De Vizcaya-Ruiz A, Barbier O, Ruiz-Ramos R, Cebrian ME. Biomarkers of oxidative stress and damage in human populations exposed to arsenic. *Mutation Research/Genetic Toxicology and Environmental Mutagenesis*. 2009 Mar 31;674(1-2):85-92.

Deb B, Maity M, Maiti S, Pan B, Perveen H, Dash M, Maiti AK, Chattopadhyay S. Abrogation of sodium arsenite driven uterine antioxidant exhaustion and tissue impairment: Role of B and folate. *Journal of Environmental Biology*. 2018 Sep 1;39(5):581-91.

Dekhuijzen PN. Antioxidant properties of N-acetylcysteine: their relevance in relation to chronic obstructive pulmonary disease. *European Respiratory Journal*. 2004 Apr 1;23(4):629-36.

Desai VT, Ganatra TH, Joshi UH, Desai TR, Tirgar PR. An investigation into the heavy metal chelating potential of *Ananas comosus* fruit in arsenic intoxicated rats. *Journal of Pharmacology & Research*. 2012;5:4084-7.

DeSesso JM. Teratogen update: inorganic arsenic. *Teratology*. 2001 Sep;64(3):170-3.

Devasagayam TP, Boloor KK, Ramasarma T. Methods for estimating lipid peroxidation: an analysis of merits and demerits. 2003;40:300-8.

Dey A, Chattopadhyay S, Jana S, Giri MK, Khatun S, Dash M, Perveen H, Maity M. Restoration of uterine redox-balance by methanolic extract of *Camellia sinensis* in arsenicated rats. *Acta Biologica Szegediensis*. 2018 Aug 23;62(1):7-15.

Dickinson DA, Moellering DR, Iles KE, Patel RP, Levonen AL, Wigley A, Darley-Usmar VM, Forman HJ. Cytoprotection against oxidative stress and the regulation of glutathione synthesis. *Biological chemistry*. 2003 Apr 10;384(4):527-37.

Diniz YS, Rocha KK, Souza GA, Galhardi CM, Ebaid GM, Rodrigues HG, Novelli Filho JL, Cicogna AC, Novelli EL. Effects of N-acetylcysteine on sucrose-rich diet-induced hyperglycaemia, dyslipidemia and oxidative stress in rats. *European journal of pharmacology*. 2006 Aug 14;543(1-3):151-7.

Drent M, Cobben NA, Henderson RF, Wouters EF, van Dieijen-Visser M. Usefulness of lactate dehydrogenase and its isoenzymes as indicators of lung damage or inflammation. *European Respiratory Journal*. 1996 Aug 1;9(8):1736-42.

Drobná Z, Waters SB, Devesa V, Harmon AW, Thomas DJ, Stýblo M. Metabolism and toxicity of arsenic in human urothelial cells expressing rat arsenic (+ 3 oxidation state)-methyltransferase. *Toxicology and applied pharmacology*. 2005 Sep 1;207(2):147-59.

Du J, Zhou N, Liu H, Jiang F, Wang Y, Hu C, Qi H, Zhong C, Wang X, Li Z. Arsenic induces functional re-expression of estrogen receptor α by demethylation of DNA in estrogen receptor-negative human breast cancer. *PloS one*. 2012 Apr 27;7(4):e35957.

El-Saad AM, Al-Kahtani MA, Abdel-Moneim AM. N-acetylcysteine and meso-2, 3-dimercaptosuccinic acid alleviate oxidative stress and hepatic dysfunction induced by sodium arsenite in male rats. *Drug design, development and therapy*. 2016;10:3425.

Environmental Protection Agency (EPA), Federal Register, 66(14): National primary drinking water regulations; Arsenic and clarification to compliance and new source contaminations monitoring; Final Rule (January 22, 2001) (2001).

Farid M, Reid MB, Li YP, Gerken E, Durham WJ. Effects of dietary curcumin or N-acetylcysteine on NF- κ B activity and contractile performance in ambulatory and unloaded murine soleus. *Nutrition & metabolism*. 2005 Dec;2(1):1-8.

Ferreccio C, González C, Milosavjevic V, Marshall G, Sancha AM, Smith AH. Lung cancer and arsenic concentrations in drinking water in Chile. *Epidemiology*. 2000 Nov 1;673-9.

Flora SJ, Pachauri V. Chelation in metal intoxication. *International journal of environmental research and public health*. 2010 Jul;7(7):2745-88.

Flora SJ. Arsenic-induced oxidative stress and its reversibility following combined administration of n-acetylcysteine and meso 2, 3–dimercaptosuccinic acid in rats. *Clinical and Experimental Pharmacology and Physiology*. 1999 Nov 4;26(11):865-9.

Flora SJ. Arsenic-induced oxidative stress and its reversibility. *Free Radical Biology and Medicine*. 2011 Jul 15;51(2):257-81.

Flora SJ. Metal poisoning: threat and management. *Al Ameen J Med Sci*. 2009;2(2):4-26.

Forman HJ, Zhang H, Rinna A. Glutathione: overview of its protective roles, measurement, and biosynthesis. *Molecular aspects of medicine*. 2009 Feb 1;30(1-2):1-2.

Fratoni V, Brandi ML. B vitamins, homocysteine and bone health. *Nutrients*. 2015 Apr;7(4):2176-92.

García-Esquinas E, Pollán M, Umans JG, Francesconi KA, Goessler W, Guallar E, Howard B, Farley J, Best LG, Navas–Acien A. Arsenic exposure and cancer mortality in a US-based prospective cohort: the strong heart study. *Cancer Epidemiology and Prevention Biomarkers*. 2013 Nov 1;22(11):1944-53.

Garcia-Martinez V, Macias D, Ganan Y, Garcia-Lobo JM, Francia MV, Fernandez-Teran MA, Hurle JM. Internucleosomal DNA fragmentation and programmed cell death (apoptosis) in the interdigital tissue of the embryonic chick leg bud. *Journal of Cell Science*. 1993 Sep 1;106(1):201-8.

Ghariani M, Adrien ML, Raucoules M, Bayle J, Jacomet Y, Grimaud D. Subacute arsenic poisoning. In *Annales Françaises d'Anesthésie et de Réanimation* 1991 (Vol. 10, No. 3, pp. 304-307). Elsevier Publishing.

Golub MS, Macintosh MS, Baumrind N. Developmental and reproductive toxicity of inorganic arsenic: animal studies and human concerns. *Journal of Toxicology and Environmental Health, Part B Critical Reviews*. 1998 Jul 1;1(3):199-237.

Gong X, Ivanov VN, Davidson MM, Hei TK. Tetramethylpyrazine (TMP) protects against sodium arsenite-induced nephrotoxicity by suppressing ROS production, mitochondrial dysfunction, pro-inflammatory signaling pathways and programmed cell death. *Archives of Toxicology*. 2015 Jul 1;89(7):1057-70.

Gore-Langton RE, Daniel SA. Follicle-stimulating hormone and estradiol regulate antrum-like reorganization of granulosa cells in rat preantral follicle cultures. *Biology of Reproduction*. 1990 Jul 1;43(1):65-72.

Gubrelay U, Mathur R, Flora SJS. Treatment of arsenic poisoning: an update. *Indian Journal of Pharmacology*. 1998;30:209-17.

Guha Mazumder DN, Ghoshal UC, Saha JA, Santra BK, De A, Chatterjee S, Dutta CR. Angle J.A. Centeno: Randomized placebo controlled trial of 2,3-

dimercapto succinic acid in therapy of chronic arsenicosis due to drinking arsenic contaminated subsoil water. *Clinical Toxicology*. 1998;36:683-90.

Guzik T, Korbut R, Adamek-Guzik T. Nitric oxide and superoxide in inflammation. *J physiol pharmacol*. 2003 Dec;54(4):469-87.

Hadwan MH. New method for assessment of serum catalase activity. *Indian Journal of Science and Technology*. 2016 Jan 12;9(4):1-5.

Hall MN, Liu X, Slavkovich V, Ilievski V, Mi Z, Alam S, Factor-Litvak P, Ahsan H, Graziano JH, Gamble MV. Influence of cobalamin on arsenic metabolism in Bangladesh. *Environmental health perspectives*. 2009 Nov;117(11):1724-9.

Halliwell B, Whiteman M. Measuring reactive species and oxidative damage in vivo and in cell culture: how should you do it and what do the results mean?. *British journal of pharmacology*. 2004 May;142(2):231-55.

Han FX, Su Y, Monts DL, Plodinec MJ, Banin A, Triplett GE. Assessment of global industrial-age anthropogenic arsenic contamination. *Naturwissenschaften*. 2003 Sep 1;90(9):395-401.

Hashim MA, Kundu A, Mukherjee S, Ng YS, Mukhopadhyay S, Redzwan G, Gupta BS. Arsenic removal by adsorption on activated carbon in a rotating packed bed. *Journal of Water Process Engineering*. 2019 Aug 1;30:100591.

Hayakawa M, Miyashita H, Sakamoto I, Kitagawa M, Tanaka H, Yasuda H, Karin M, Kikugawa K. Evidence that reactive oxygen species do not mediate NF- κ B activation. *The EMBO journal*. 2003 Jul 1;22(13):3356-66.

Hayakawa T, Kobayashi Y, Cui X, Hirano S. A new metabolic pathway of arsenite: arsenic–glutathione complexes are substrates for human arsenic methyltransferase Cyt19. *Archives of toxicology*. 2005 Apr 1;79(4):183-91.

He X, Ma Q. Induction of Metallothionein I by arsenic via metal-activated transcription factor 1 critical role of C-terminal cysteine residues in arsenic sensing. *Journal of Biological Chemistry*. 2009 May 8;284(19):12609-21.

Heck JE, Park AS, Qiu J, Cockburn M, Ritz B. Risk of leukemia in relation to exposure to ambient air toxics in pregnancy and early childhood. *International journal of hygiene and environmental health*. 2014 Jul 1;217(6):662-8.

Hemalatha P, Reddy AG, Reddy YR, Shivakumar P. Evaluation of protective effect of N-acetyl cysteine on arsenic-induced hepatotoxicity. *Journal of natural science, biology, and medicine*. 2013 Jul;4(2):393.

Hildebrandt W, Sauer R, Bonaterra G, Dugi KA, Edler L, Kinscherf R. Oral N-acetylcysteine reduces plasma homocysteine concentrations regardless of lipid or smoking status. *The American journal of clinical nutrition*. 2015 Nov 1;102(5):1014-24.

Hinshelwood MM, Demter-Arlotto M, Means GD, Simpson ER. Expression of genes encoding steroidogenic enzymes in the ovary. *Molecular biology of the female reproductive system*. 1994 Jan 1;6:129-51.

Hsieh FI, Hwang TS, Hsieh YC, Lo HC, Su CT, Hsu HS, Chiou HY, Chen CJ. Risk of erectile dysfunction induced by arsenic exposure through well water consumption in Taiwan. *Environmental health perspectives*. 2008 Apr;116(4):532-6.

Hultberg B, Andersson A, Isaksson A. The effects of homocysteine and copper ions on the concentration and redox status of thiols in cell line cultures. *Clinica chimica acta*. 1997 Jun 27;262(1-2):39-51.

Hultberg B, Andersson A, Masson P, Larson M, Tunek A. Plasma homocysteine and thiol compound fractions after oral administration of N-acetylcysteine. *Scandinavian journal of clinical and laboratory investigation*. 1994 Jan 1;54(6):417-22.

Huq ME, Fahad S, Shao Z, Sarven MS, Khan IA, Alam M, Saeed M, Ullah H, Adnan M, Saud S, Cheng Q. Arsenic in a groundwater environment in Bangladesh: Occurrence and mobilization. *Journal of Environmental Management*. 2020 May 15;262:110318.

IARC Working Group on the Evaluation of Carcinogenic Risks to Humans, World Health Organization, International Agency for Research on Cancer. Some drinking-water disinfectants and contaminants, including arsenic. 84, IARC; 2004. 1-477.

IARC Working Group on the Evaluation of Carcinogenic Risks to Humans, World Health Organization, International Agency for Research on Cancer. Cobalt in hard metals and cobalt sulfate, gallium arsenide, indium phosphide and vanadium pentoxide. 86, IARC; 2006. 1-294.

IARC Working Group on the Evaluation of Carcinogenic Risks to Humans, World Health Organization, International Agency for Research on Cancer. Arsenic and arsenic compounds. 1980;23:39-141.

Iglesias J, Borrás G, Lailla JM, Fortuny A, Molina R, Ballesta A, Sentís J. Total LDH and its isoenzymes in gynecological malignancies and other gynecological conditions. *European Journal of Gynaecological Oncology*. 1988 Jan 1;9(1):32-5.

Im Chang S, Jin B, Youn P, Park C, Park JD, Ryu DY. Arsenic-induced toxicity and the protective role of ascorbic acid in mouse testis. *Toxicology and applied pharmacology*. 2007 Jan 15;218(2):196-203.

Jackson IM, Barnes J, Cooksey P. Efficacy and tolerability of oral acetylcysteine (Fabrol®) in chronic bronchitis: a double-blind placebo controlled study. *Journal of international medical research*. 1984 May;12(3):198-206.

Jacques PF, Bostom AG, Wilson PW, Rich S, Rosenberg IH, Selhub J. Determinants of plasma total homocysteine concentration in the Framingham Offspring cohort. *The American journal of clinical nutrition*. 2001 Mar 1;73(3):613-21.

Jana K, Jana S, Samanta PK. Effects of chronic exposure to sodium arsenite on hypothalamo-pituitary-testicular activities in adult rats: possible an estrogenic mode of action. *Reproductive biology and endocrinology*. 2006 Dec 1;4(1):9.

Jana S, Chattopadhyay S, Dey A, Perveen H, Dolai D. Involvement of metallothionein, homocysteine and B-vitamins in the attenuation of arsenic-induced uterine disorders in response to the oral application of hydro-ethanolic extract of *Moringa oleifera* seed: a preliminary study. *Drug and chemical toxicology*. 2018 Jan 2;43(1):1-2.

Jarabak J, Adams JA, Williams-Ashman HG, Talalay P. Purification of a 17β -hydroxysteroid dehydrogenase of human placenta and studies on its transhydrogenase function. *Journal of Biological Chemistry*. 1962 Feb 1;237(2):345-57.

Jing H, Lee S. NF- κ B in cellular senescence and cancer treatment. *Molecules and cells*. 2014 Mar 31;37(3):189-95.

Kabbaj O, Yoon SR, Holm C, Rose J, Vitale ML, Pelletier RM. Relationship of the hormone-sensitive lipase-mediated modulation of cholesterol metabolism in individual compartments of the testis to serum pituitary hormone and testosterone concentrations in a seasonal breeder, the mink (*Mustela vison*). *Biology of reproduction*. 2003 Mar 1;68(3):722-34.

Kadota Y, Toriuchi Y, Aki Y, Mizuno Y, Kawakami T, Nakaya T, Sato M, Suzuki S. Metallothioneins regulate the adipogenic differentiation of 3T3-L1 cells via the insulin signaling pathway. *PloS one*. 2017 Apr 20;12(4):e0176070.

Kang JH, Yun SI, Park MH, Park JH, Jeong SY, Park HO. Anti-obesity effect of *Lactobacillus gasseri* BNR17 in high-sucrose diet-induced obese mice. *PloS one*. 2013 Jan 30;8(1):e54617.

Kannan GM, Flora SJ. Combined administration of N-acetylcysteine and monoisoamyl DMSA on tissue oxidative stress during arsenic chelation therapy. *Biological trace element research*. 2006 Apr 1;110(1):43-59.

Kannan GM, Flora SJ. Combined administration of N-acetylcysteine and monoisoamyl DMSA on tissue oxidative stress during arsenic chelation therapy. *Biological trace element research*. 2006 Apr 1;110(1):43-59.

Kile ML, Ronnenberg AG. Can folate intake reduce arsenic toxicity?. *Nutrition reviews*. 2008 Jun 1;66(6):349-53.

Kim H, Seo JY, Roh KH, Lim JW, Kim KH. Suppression of NF- κ B activation and cytokine production by N-acetylcysteine in pancreatic acinar cells. *Free Radical Biology and Medicine*. 2000 Oct 1;29(7):674-83.

Kim YJ, Chung JY, Lee SG, Kim JY, Park JE, Kim WR, Joo BS, Han SH, Yoo KS, Yoo YH, Kim JM. Arsenic trioxide-induced apoptosis in TM4 Sertoli cells: the potential involvement of p21 expression and p53 phosphorylation. *Toxicology*. 2011 Jul 29;285(3):142-51.

Kim YJ, Kim JM. Arsenic toxicity in male reproduction and development. *Development & reproduction*. 2015 Dec;19(4):167.

Kinniburgh DG, Smedley PL. 2001. Arsenic Contamination of Groundwater in Bangladesh. Final Report. BGS Technical Report. Keyworth, UK:British Geological Survey.

Kitazawa H, Numakawa T, Adachi N, Kumamaru E, Tuerxun T, Kudo M, Kunugi H. Cyclophosphamide promotes cell survival via activation of intracellular signaling in cultured cortical neurons. *Neuroscience letters*. 2010 Feb 12;470(2):139-44.

Klaassen CD, Liu J, Diwan BA. Metallothionein protection of cadmium toxicity. *Toxicology and applied pharmacology*. 2009 Aug 1;238(3):215-20.

Kligerman AD, Malik SI, Campbell JA. Cytogenetic insights into DNA damage and repair of lesions induced by a monomethylated trivalent arsenical. *Mutation*

Research/Genetic Toxicology and Environmental Mutagenesis. 2010 Jan 1;695(1-2):2-8.

Knoefler D, Tienson HL, Jakob U. Role of oxidative stress in aging. In *Oxidative Stress and Redox Regulation 2013* (pp. 389-426). Springer, Dordrecht.

Kobayashi Y, Cui X, Hirano S. Stability of arsenic metabolites, arsenic triglutathione [As (GS) 3] and methylarsenic diglutathione [CH₃As (GS) 2], in rat bile. *Toxicology*. 2005 Jul 1;211(1-2):115-23.

Kosnett MJ. The role of chelation in the treatment of arsenic and mercury poisoning. In *Journal of Medical Toxicology 2013 Dec 1* (Vol. 9, No. 4, pp. 347-354). Springer US.

Krishnakumari MK, Rajalakshmi D, Sreenivasan V, Ramasundaram CP. Feeding responses of young and adult albino rats (*Rattus norvegicus*) to a mixed basal diet. *Proceedings: Animal Sciences*. 1979 Oct 1;88(5):367-75.

Kulin HE, Reiter EO. Gonadotropins during childhood and adolescence: a review. *Pediatrics*. 1973 Feb 1;51(2):260-71.

Kumar A. Effect of simuastation on paraxonase 1 (PON1) activity and oxidation stress. *Significance of Lipid Profile Assay as Diagnostic and Prognostic Tool*. Create Space Independent Publishing Platform. California. 2012:105-9.

Kumar S, Yedjou CG, Tchounwou PB. Arsenic trioxide induces oxidative stress, DNA damage, and mitochondrial pathway of apoptosis in human leukemia (HL-60) cells. *Journal of experimental & clinical cancer research*. 2014 Dec;33(1):1-2.

Kunsch C, Lang RK, Rosen CA, Shannon MF. Synergistic transcriptional activation of the IL-8 gene by NF-kappa B p65 (RelA) and NF-IL-6. *The Journal of Immunology*. 1994 Jul 1;153(1):153-64.

Le XC, Ma M, Cullen WR, Aposhian HV, Lu X, Zheng B. Determination of monomethylarsonous acid, a key arsenic methylation intermediate, in human urine. *Environmental Health Perspectives*. 2000 Nov;108(11):1015-8.

Lee MY, Bae ON, Chung SM, Kang KT, Lee JY, Chung JH. Enhancement of platelet aggregation and thrombus formation by arsenic in drinking water: a contributing factor to cardiovascular disease. *Toxicology and applied pharmacology*. 2002 Mar 1;179(2):83-8.

Lerman BB, Ali N, Green D. Megaloblastic, dyserythropoietic anemia following arsenic ingestion. *Annals of Clinical & Laboratory Science*. 1980 Nov 1;10(6):515-7.

Li M, Cai JF, Chiu JF. Arsenic induces oxidative stress and activates stress gene expressions in cultured lung epithelial cells. *Journal of cellular biochemistry*. 2002;87(1):29-38.

Li X, Yi H, Wang H. Sulphur dioxide and arsenic affect male reproduction via interfering with spermatogenesis in mice. *Ecotoxicology and environmental safety*. 2018 Dec 15;165:164-73.

Libermann TA, Baltimore DA. Activation of interleukin-6 gene expression through the NF-kappa B transcription factor. *Molecular and cellular biology*. 1990 May 1;10(5):2327-34.

Lin HJ, Sung TI, Chen CY, Guo HR. Arsenic levels in drinking water and mortality of liver cancer in Taiwan. *Journal of hazardous materials*. 2013 Nov 15;262:1132-8.

Lin S, Shi Q, Nix FB, Styblo M, Beck MA, Herbin-Davis KM, Hall LL, Simeonsson JB, Thomas DJ. A Novel S-adenosyl-L-methionine: arsenic (III) methyltransferase from rat liver cytosol. *Journal of Biological Chemistry*. 2002 Mar 29;277(13):10795-803.

Liu J, Waalkes MP. Liver is a target of arsenic carcinogenesis. *Toxicological sciences*. 2008 Sep 1;105(1):24-32.

Liu L, Keefe DL. Ageing-associated aberration in meiosis of oocytes from senescence-accelerated mice. *Human Reproduction*. 2002 Oct 1;17(10):2678-85.

Liu M, Wikonkal NM, Brash DE. Induction of cyclin-dependent kinase inhibitors and G1 prolongation by the chemopreventive agent N-acetylcysteine. *Carcinogenesis*. 1999 Sep 1;20(9):1869-72.

Liu SY, Yin XY, Cai SS, Hu NN, Yi QR, Li X. Influence of low level and long-term arsenic exposure to the phosphorylated protein kinase B as well as its downstream signal factor IKK, I-KB and NF- κ B in HaCat cells. *Chinese Journal of Control of Endemic Diseases*. 2014(1):6.

Lorber A, Baumgartner WA, Bovy RA, Chang CC, Hollcraft R. Clinical Application for Heavy Metal-Complexing Potential of N-Acetylcysteine. *The Journal of Clinical Pharmacology and New Drugs*. 1973 Aug 9;13(8-9):332-6.

Luetscher JA, Eagle H, Longcope WT, Watson EB. Clinical uses of 2, 3-dimercaptopropanol (BAL). VIII. The effect of BAL on the excretion of arsenic

in arsenical intoxication. The Journal of clinical investigation. 1946 Jul 1;25(4):534-40.

Maehashi H, Murata Y. Arsenic excretion after treatment of arsenic poisoning with DMSA or DMPS in mice. The Japanese Journal of Pharmacology. 1986;40(1):188-90.

Mahmudur Rahman M, Kumar Sengupta M, Ahamed S, Lodh D, Das B, Amir Hossain M, Nayak B, Mukherjee A, Chakraborti D, Chandra Mukherjee S, Pati S. Murshidabad—One of the nine groundwater arsenic-affected districts of West Bengal, India. Part I: Magnitude of contamination and population at risk. Clinical Toxicology. 2005 Jan 1;43(7):823-34.

Maiti S, Chattopadhyay S, Acharyya N, Deb B, Hati AK. Emblica officinalis (amla) ameliorates arsenic-induced liver damage via DNA protection by antioxidant systems. Molecular & Cellular Toxicology. 2014 Mar 1;10(1):75-82.

Maiti S, Chattopadhyay S, Deb B, Samanta T, Maji G, Pan B, Ghosh A, Ghosh D. Antioxidant and metabolic impairment result in DNA damage in arsenic-exposed individuals with severe dermatological manifestations in Eastern India. Environmental toxicology. 2012 Jun;27(6):342-50.

Maity M, Perveen H, Dash M, Jana S, Khatun S, Dey A, Mandal AK, Chattopadhyay S. Arjunolic acid improves the serum level of vitamin B₁₂ and folate in the process of the attenuation of arsenic induced uterine oxidative stress. Biological trace element research. 2018 Mar 1;182(1):78-90.

Makarov SS. NF- κ B as a therapeutic target in chronic inflammation: recent advances. Molecular medicine today. 2000 Nov 1;6(11):441-8.

Mandal BK, Suzuki KT. Arsenic round the world: a review. *Talanta*. 2002 Aug 16;58(1):201-35.

Martinez-Outschoorn UE, Peiris-Pages M, Pestell RG, Sotgia F, Lisanti MP. Cancer metabolism: a therapeutic perspective. *Nature reviews Clinical oncology*. 2017 Jan;14(1):11.

Mazumder DG. Health effects chronic arsenic toxicity. In *Handbook of arsenic toxicology* 2015 Jan 1 (pp. 137-177). Academic Press.

Mazumder DN, Haque R, Ghosh N, De BK, Santra A, Chakraborty D, Smith AH. Arsenic levels in drinking water and the prevalence of skin lesions in West Bengal, India. *International journal of epidemiology*. 1998 Oct 1;27(5):871-7.

Meeker JD, Rossano MG, Protas B, Padmanahban V, Diamond MP, Puscheck E, Daly D, Paneth N, Wirth JJ. Environmental exposure to metals and male reproductive hormones: circulating testosterone is inversely associated with blood molybdenum. *Fertility and sterility*. 2010 Jan 1;93(1):130-40.

Mieyal JJ, Gallogly MM, Qanungo S, Sabens EA, Shelton MD. Molecular mechanisms and clinical implications of reversible protein S-glutathionylation. *Antioxidants & redox signaling*. 2008 Nov 1;10(11):1941-88.

Miller AL. Dimercaptosuccinic acid (DMSA), a non-toxic, water-soluble treatment for heavy metal toxicity. *Alternative medicine review: a journal of clinical therapeutic*. 1998 Jun 1;3(3):199-207.

Miller DM, Buettner GR, Aust SD. Transition metals as catalysts of “autoxidation” reactions. *Free Radical Biology and Medicine*. 1990 Jan 1;8(1):95-108.

Milton AH, Smith W, Rahman B, Hasan Z, Kulsum U, Dear K, Rakibuddin M, Ali A. Chronic arsenic exposure and adverse pregnancy outcomes in Bangladesh. *Epidemiology*. 2005 Jan 1:82-6.

Mittal M, Chatterjee S, Flora SJ. Combination therapy with vitamin C and DMSA for arsenic–fluoride co-exposure in rats. *Metallomics*. 2018;10(9):1291-306.

Mondal S, Mukherjee S, Chaudhuri K, Kabir SN, Kumar Mukhopadhyay P. Prevention of arsenic-mediated reproductive toxicity in adult female rats by high protein diet. *Pharmaceutical biology*. 2013 Nov 1;51(11):1363-71.

Mueller PD, Benowitz NL. Toxicologic causes of acute abdominal disorders. *Emergency medicine clinics of North America*. 1989 Aug;7(3):667-82.

Multiple Indicator Cluster Survey 2012-13: Final Report. BBS/UNICEF. Dhaka: Bangladesh Bureau of Statistics/UNICEF, 2015.

Nag JK, Balaram V, Rubio R, Alberti J, Das AK. Inorganic arsenic species in groundwater: a case study from Purbasthali (Burdwan), India. *Journal of Trace Elements in Medicine and Biology*. 1996 Jan 1;10(1):20-4.

Nakamura K. Biomimetic and bio-Inspired catalytic system for arsenic detoxification, bio-Inspired catalysts with vitamin-B12 cofactor. On

biomimetics. Edited by L Pramatarova. IntechOpen, Rijeka, Croatia. 2011 Aug 29:213-28.

Nizam S, Kato M, Yatsuya H, Khalequzzaman M, Ohnuma S, Naito H, Nakajima T. Differences in urinary arsenic metabolites between diabetic and non-diabetic subjects in Bangladesh. *International journal of environmental research and public health*. 2013 Mar;10(3):1006-19.

Noctor G, Gomez L, Vanacker H, Foyer CH. Interactions between biosynthesis, compartmentation and transport in the control of glutathione homeostasis and signalling. *Journal of experimental botany*. 2002 May 15;53(372):1283-304.

Nordstrom DK. Public health. Worldwide occurrences of arsenic in ground water. *Science*. 2002; 296:2143–5.

Oh SH, Lim SC. A rapid and transient ROS generation by cadmium triggers apoptosis via caspase-dependent pathway in HepG2 cells and this is inhibited through N-acetylcysteine-mediated catalase upregulation. *Toxicology and applied pharmacology*. 2006 May 1;212(3):212-23.

Paglia DE, Valentine WN. Studies on the quantitative and qualitative characterization of erythrocyte glutathione peroxidase. *The Journal of laboratory and clinical medicine*. 1967 Jul 1;70(1):158-69.

Pal S, Chatterjee AK. Protective effect of N-acetylcysteine against arsenic-induced depletion in vivo of carbohydrate. *Drug and chemical toxicology*. 2005 Jan 1;27(2):179-89.

Pande M, Mehta A, Pant BP, Flora SJ. Combined administration of a chelating agent and an antioxidant in the prevention and treatment of acute lead intoxication in rats. *Environmental toxicology and pharmacology*. 2001 Mar 1;9(4):173-84.

Pant N, Murthy RC, Srivastava SP. Male reproductive toxicity of sodium arsenite in mice. *Human & experimental toxicology*. 2004 Aug;23(8):399-403.

Pathak S, Stern C, Vambutas A. N-Acetylcysteine attenuates tumor necrosis factor alpha levels in autoimmune inner ear disease patients. *Immunologic research*. 2015 Dec 1;63(1-3):236-45.

Patil SR, Ravindra SR, Patil RE, Londonkar RA, Patil SB. Nicotine induced ovarian and uterine changes in albino mice. *Indian journal of physiology and pharmacology*. 1998 Oct 1;42:503-8.

Pattichis K, Louca LL, Glover V. Quantitation of soluble superoxide dismutase in rat striata, based on the inhibition of nitrite formation from hydroxylammonium chloride. *Analytical biochemistry*. 1994 Sep 1;221(2):428-31.

Peng Z, Peng L, Fan Y, Zandi E, Shertzer HG, Xia Y. A critical role for I κ B kinase β in metallothionein-1 expression and protection against arsenic toxicity. *Journal of Biological Chemistry*. 2007 Jul 20;282(29):21487-96.

Perveen H, Chattopadhyay S, Maity M, Dash M, Islam SS. Involvement of proinflammatory cytokines and metallothionein in the repairing of arsenic-mediated uterine tissue damage by curcumin. *Journal of basic and clinical physiology and pharmacology*. 2019 Jun 13;30(4).

Perveen H, Dash M, Khatun S, Maity M, Islam SS, Chattopadhyay S. Electrozymographic evaluation of the attenuation of arsenic induced degradation of hepatic SOD, catalase in an in vitro assay system by pectic polysaccharides of *Momordica charantia* in combination with curcumin. *Biochemistry and biophysics reports*. 2017 Sep 1;11:64-71.

Perveen H, Dey A, Nilavar NM, Chandra GK, Islam SS, Chattopadhyay S. Dietary CCPS from bitter melon attenuates sodium arsenite induced female reproductive ailments cum infertility in wistar rats: anti-inflammatory and anti-apoptotic role. *Food and Chemical Toxicology*. 2019 Sep 1;131:110545.

Peryea FJ. Historical use of lead arsenate insecticides, resulting soil contamination and implications for soil remediation. *Proc. 16th World Cong. Soil Sci., Montpellier, France*. 1998 Aug 20:20-6.

Pieralisi A, Martini C, Soto D, Vila MC, Calvo JC, Guerra LN. N-acetylcysteine inhibits lipid accumulation in mouse embryonic adipocytes. *Redox biology*. 2016 Oct 1;9:39-44.

Poddar R, Sivasubramanian N, DiBello PM, Robinson K, Jacobsen DW. Homocysteine induces expression and secretion of monocyte chemoattractant protein-1 and interleukin-8 in human aortic endothelial cells: implications for vascular disease. *Circulation*. 2001 Jun 5;103(22):2717-23.

Poklis A, Saady JJ. Arsenic poisoning: acute or chronic? Suicide or murder?. *The American Journal of Forensic Medicine and Pathology*. 1990 Sep 1;11(3):226-32.

Poljsak B. Strategies for reducing or preventing the generation of oxidative stress. *Oxidative medicine and cellular longevity*. 2011 Oct;2011:1-15.

Prabu SM, Muthumani M. Silibinin ameliorates arsenic induced nephrotoxicity by abrogation of oxidative stress, inflammation and apoptosis in rats. *Molecular Biology Reports*. 2012 Oct 16;39:11201-16.

Qu W, Liu J, Dill AL, Saavedra JE, Keefer LK, Waalkes MP. V-PROLI/NO, a nitric oxide donor prodrug, protects liver cells from arsenic-induced toxicity. *Cancer science*. 2009 Mar;100(3):382-8.

Qu W, Pi J, Waalkes MP. Metallothionein blocks oxidative DNA damage in vitro. *Archives of toxicology*. 2013 Feb 1;87(2):311-21.

Qu W, Waalkes MP. Metallothionein blocks oxidative DNA damage induced by acute inorganic arsenic exposure. *Toxicology and applied pharmacology*. 2015 Feb 1;282(3):267-74.

Rahman A, Vahter M, Ekström EC, Rahman M, Golam Mustafa AH, Wahed MA, Yunus M, Persson LÅ. Association of arsenic exposure during pregnancy with fetal loss and infant death: a cohort study in Bangladesh. *American journal of epidemiology*. 2007 Jun 15;165(12):1389-96.

Rahman A, Vahter M, Smith AH, Nermell B, Yunus M, El Arifeen S, Persson LÅ, Ekström EC. Arsenic exposure during pregnancy and size at birth: a prospective cohort study in Bangladesh. *American journal of epidemiology*. 2009 Feb 1;169(3):304-12.

Rahman M, Tondel M, Ahmad SA, Chowdhury IA, Faruquee MH, Axelson O. Hypertension and arsenic exposure in Bangladesh. *Hypertension*. 1999 Jan;33(1):74-8.

Reddy PS, Rani GP, Sainath SB, Meena R, Supriya CH. Protective effects of N-acetylcysteine against arsenic-induced oxidative stress and reprotoxicity in male mice. *Journal of Trace Elements in Medicine and Biology*. 2011 Dec 1;25(4):247-53.

Rizk AY, Bedaiwy MA, Al-Inany HG. N-acetyl-cysteine is a novel adjuvant to clomiphene citrate in clomiphene citrate-resistant patients with polycystic ovary syndrome. *Fertility and sterility*. 2005 Feb 1;83(2):367-70.

Rodriguez VM, Carrizales L, Mendoza MS, Fajardo OR, Giordano M. Effects of sodium arsenite exposure on development and behavior in the rat. *Neurotoxicology and teratology*. 2002 Nov 1;24(6):743-50.

Rossmann TG, Uddin AN, Burns FJ. Evidence that arsenite acts as a cocarcinogen in skin cancer. *Toxicology and applied pharmacology*. 2004 Aug 1;198(3):394-404.

Sadowska AM, Manuel-Y-Keenoy B, De Backer WA. Antioxidant and anti-inflammatory efficacy of NAC in the treatment of COPD: discordant in vitro and in vivo dose-effects: a review. *Pulmonary pharmacology & therapeutics*. 2007 Feb 1;20(1):9-22.

Samuni Y, Goldstein S, Dean OM, Berk M. The chemistry and biological activities of N-acetylcysteine. *Biochimica et Biophysica Acta (BBA)-General Subjects*. 2013 Aug 1;1830(8):4117-29.

Sanghamitra S, Hazra J, Upadhyay SN, Singh RK, Amal RC. Arsenic induced toxicity on testicular tissue of mice. *Indian Journal of Physiology & Pharmacology*. 2008;52:84–90.

Santra A, Chowdhury A, Ghatak S, Biswas A, Dhali GK. Arsenic induces apoptosis in mouse liver is mitochondria dependent and is abrogated by N-acetylcysteine. *Toxicology and applied pharmacology*. 2007 Apr 15;220(2):146-55.

Schoolmeester WL, White DR. Arsenic poisoning. *Southern medical journal*. 1980 Feb;73(2):198-208.

Schulze-Osthoff K, Los M, Baeuerle PA. Redox signalling by transcription factors NF- κ B and AP-1 in lymphocytes. *Biochemical pharmacology*. 1995 Sep 7;50(6):735-41.

Sen R, Sarkar S. Arsenic Contamination of Groundwater in West Bengal: A Report. In *Waste Management and Resource Efficiency 2019* (pp. 249-259). Springer, Singapore.

Seo JB, Choe SS, Jeong HW, Park SW, Shin HJ, Choi SM, Park JY, Choi EW, Kim JB, Seen DS, Jeong JY. Anti-obesity effects of *Lysimachia foenum-graecum* characterized by decreased adipogenesis and regulated lipid metabolism. *Experimental & molecular medicine*. 2011 Apr;43(4):205-15.

Shila S, Kathirvel R, Jayavelu T, Chinnakkannu P, 2005. Protein oxidative damage in arsenic induced rat brain: influence of DL-lipoic acid. 2005 Jan 15;155(1):27-34.

Shimizu M, Hochadel JF, Fulmer BA, Waalkes MP. Effect of glutathione depletion and metallothionein gene expression on arsenic-induced cytotoxicity and c-myc expression in vitro. *Toxicological sciences*. 1998 Oct 1;45(2):204-11.

Sies H. Glutathione and its role in cellular functions. *Free Radical Biology and Medicine*. 1999 Nov 1;27(9-10):916-21.

Singh MK, Yadav SS, Gupta V, Khattri S. Immunomodulatory role of *Embllica officinalis* in arsenic induced oxidative damage and apoptosis in thymocytes of mice. *BMC Complementary and Alternative Medicine*. 2013 Dec;13(1):1-3.

Singh N, Kumar D, Sahu AP. Arsenic in the environment: effects on human health and possible prevention. *Journal of Environmental Biology*. 2007 Apr 1;28(2):359.

Singh NP, McCoy MT, Tice RR, Schneider EL. A simple technique for quantitation of low levels of DNA damage in individual cells. *Experimental cell research*. 1988 Mar 1;175(1):184-91.

Skvarc DR, Dean OM, Byrne LK, Gray L, Lane S, Lewis M, Fernandes BS, Berk M, Marriott A. The effect of N-acetylcysteine (NAC) on human cognition—A systematic review. *Neuroscience & Biobehavioral Reviews*. 2017 Jul 1;78:44-56.

Smilkstein MJ, Knapp GL, Kulig KW, Rumack BH. Efficacy of oral N-acetylcysteine in the treatment of acetaminophen overdose. *New England Journal of Medicine*. 1988 Dec 15;319(24):1557-62.

Smith AH, Arroyo AP, Mazumder DN, Kosnett MJ, Hernandez AL, Beeris M, Smith MM, Moore LE. Arsenic-induced skin lesions among Atacameño people in Northern Chile despite good nutrition and centuries of exposure. *Environmental Health Perspectives*. 2000 Jul;108(7):617-20.

Smith AH, Marshall G, Yuan Y, Ferreccio C, Liaw J, von Ehrenstein O, Steinmaus C, Bates MN, Selvin S. Increased mortality from lung cancer and bronchiectasis in young adults after exposure to arsenic in utero and in early childhood. *Environmental health perspectives*. 2006 Aug;114(8):1293-6.

Smith AH, Steinmaus CM. Arsenic in drinking water. *BMJ*. 2011; 342:d2248.

Snow ET, Hu Y, Klein CB, McCluskey KL, Schuliga M, Sykora P. Regulation of redox and DNA repair genes by arsenic: low dose protection against oxidative stress?. In *Arsenic Exposure and Health Effects V* 2003 Jan 1 (pp. 305-319). Elsevier Science BV.

Souza AC, Bastos DS, Sertorio MN, Santos FC, Ervilha LO, de Oliveira LL, Machado-Neves M. Combined effects of arsenic exposure and diabetes on male reproductive functions. *Andrology*. 2019 Sep;7(5):730-40.

Stump DG, Holson JF, Fleeman TL, Nemecek MD, Farr CH. Comparative effects of single intraperitoneal or oral doses of sodium arsenate or arsenic trioxide during in utero development. *Teratology*. 1999 Nov;60(5):283-91.

Sun X, He Y, Guo Y, Li S, Zhao H, Wang Y, Zhang J, Xing M. Arsenic affects inflammatory cytokine expression in *Gallus gallus* brain tissues. *BMC veterinary research*. 2017 Dec;13(1):1-0.

Sun Y, Wang C, Wang L, Dai Z, Yang K. Arsenic trioxide induces apoptosis and the formation of reactive oxygen species in rat glioma cells. *Cellular & molecular biology letters*. 2018 Dec;23(1):1-0.

Sun Y. Free radicals, antioxidant enzymes, and carcinogenesis. *Free Radical Biology and Medicine*. 1990 Jan 1;8(6):583-99.

Swart KM, Van Schoor NM, Lips P. Vitamin B12, folic acid, and bone. *Current Osteoporosis Reports*. 2013 Sep; 11(3):213-8.

Talalay P. Hydroxysteroid dehydrogenase. In: Colowick, S.P., Kaplan, N.O. (Eds.), *Methods in Enzymology*. Academic Press, New York, 1962; 512–6.

Tan S, Gao B, Tao Y, Guo J, Su ZQ. Antiobese effects of capsaicin–chitosan microsphere (CCMS) in obese rats induced by high fat diet. *Journal of agricultural and food chemistry*. 2014 Feb 26;62(8):1866-74.

Tardiolo G, Bramanti P, Mazzon E. Overview on the effects of N-acetylcysteine in neurodegenerative diseases. *Molecules*. 2018 Dec;23(12):3305.

Tattersall AB, Bridgman KM, Huitson A. Acetylcysteine (Fabrol) in chronic bronchitis—a study in general practice. *Journal of international medical research*. 1983 Sep;11(5):279-84.

Thomas DJ, Styblo M, Lin S. The cellular metabolism and systemic toxicity of arsenic. *Toxicology and applied pharmacology*. 2001 Oct 15;176(2):127-44.

Thompson DJ. A chemical hypothesis for arsenic methylation in mammals. *Chemico-biological interactions*. 1993 Sep 1;88(2-3):89-114.

Tice RR, Yager JW, Andrews P, Crecelius E. Effect of hepatic methyl donor status on urinary excretion and DNA damage in B6C3F1 mice treated with sodium arsenite. *Mutation Research/Reviews in Mutation Research*. 1997 Jun 1;386(3):315-34.

Tsai SY, Chou HY, The HW, Chen CM, Chen CJ. The effects of chronic arsenic exposure from drinking water on the neurobehavioral development in adolescence. *Neurotoxicology*. 2003 Aug 1;24(4-5):747-53.

Tseng CH, Tseng CP, Chiou HY, Hsueh YM, Chong CK, Chen CJ. Epidemiologic evidence of diabetogenic effect of arsenic. *Toxicology letters*. 2002 Jul 7;133(1):69-76.

Urquhart BL, House AA, Cutler MJ, Spence JD, Freeman DJ. Thiol exchange: an in vitro assay that predicts the efficacy of novel homocysteine lowering therapies. *Journal of pharmaceutical sciences*. 2006 Aug 1;95(8):1742-50.

Vahter M. Effects of arsenic on maternal and fetal health. *Annual review of nutrition*. 2009 Aug 21;29:381-99.

Vahter M. Mechanisms of arsenic biotransformation. *Toxicology*. 2002 Dec 27;181:211-7.

Valko MM, Morris H, Cronin MT. Metals, toxicity and oxidative stress. *Current medicinal chemistry*. 2005 May 1;12(10):1161-208.

Van Geen A, Ahsan H, Horneman AH, Dhar RK, Zheng Y, Hussain I, Ahmed KM, Gelman A, Stute M, Simpson HJ, Wallace S. Promotion of well-switching

to mitigate the current arsenic crisis in Bangladesh. *Bulletin of the World Health Organization*. 2002;80:732-7.

Verma IM, Stevenson JK, Schwarz EM, Van Antwerp D, Miyamoto S. Rel/NF-kappa B/I kappa B family: intimate tales of association and dissociation. *Genes & development*. 1995 Nov 15;9(22):2723-35.

Vermeulen NP, Commandeur JN, Groot EJ, Wormhoudt LW, Ramnatshing S, Li QJ, Brakenhoff JP. Toxicity of fotemustine in rat hepatocytes and mechanism-based protection against it. *Chemico-biological interactions*. 1998 Apr 3;110(3):139-58.

Wakao N, Koyatsu H, Komai Y, Shimokawara H, Sakurai Y, Shiota H. Microbial oxidation of arsenite and occurrence of arsenite-oxidizing bacteria in acid mine water from a sulfur-pyrite mine. *Geomicrobiology Journal*. 1988 Jan 1;6(1):11-24.

Wang X, Fang H, Huang Z, Shang W, Hou T, Cheng A, Cheng H. Imaging ROS signaling in cells and animals. *Journal of molecular medicine*. 2013 Aug 1;91(8):917-27.

Wang X, Mandal AK, Saito H, Pulliam JF, Lee EY, Ke ZJ, Lu J, Ding S, Li L, Shelton BJ, Tucker T. Arsenic and chromium in drinking water promote tumorigenesis in a mouse colitis-associated colorectal cancer model and the potential mechanism is ROS-mediated Wnt/ β -catenin signaling pathway. *Toxicology and applied pharmacology*. 2012 Jul 1;262(1):11-21.

Wang Y, Wei Y, Zhang H, Shi Y, Li Y, Li R. Arsenic trioxide induces apoptosis of p53 null osteosarcoma MG63 cells through the inhibition of catalase. *Medical oncology*. 2012 Jun 1;29(2):1328-34.

Ward JM, Erexson CR, Faucette LJ, Foley JF, Dijkstra C, Cattoretti G. Immunohistochemical markers for the rodent immune system. *Toxicologic pathology*. 2006 Aug;34(5):616-30.

Wei M, Liu J, Xu M, Rui D, Xu S, Feng G, Ding Y, Li S, Guo S. Divergent effects of arsenic on NF- κ B signaling in different cells or tissues: a systematic review and meta-analysis. *International Journal of Environmental Research and Public Health*. 2016 Feb;13(2):163.

Weydert CJ, Cullen JJ. Measurement of superoxide dismutase, catalase and glutathione peroxidase in cultured cells and tissue. *Nature protocols*. 2010 Jan;5(1):51-66.

WHO. *Arsenic and Arsenic Compounds (Environmental Health Criteria 224)*, 2nd ed. Geneva: World Health Organization, International Programme on Chemical Safety, 2001.

WHO. *Air Quality Guidelines for Europe*, 2nd ed. Copenhagen: WHO Regional Publications, European Series, No. 91, 2000, 288 pp.

WHO: *Guideline for Drinking Water Quality, Recommendation, Vol. 1*. 2nd Edn. Geneva: World Health Organization. p. 41 (1992).

Wilpart M, Speder A, Roberfroid M. Anti-initiation activity of N-acetylcysteine in experimental colonic carcinogenesis. *Cancer letters*. 1986 Jun 1;31(3):319-24.

Woo JH, Kim YH, Choi YJ, Kim DG, Lee KS, Bae JH, Min DS, Chang JS, Jeong YJ, Lee YH, Park JW. Molecular mechanisms of curcumin-induced cytotoxicity: induction of apoptosis through generation of reactive oxygen species, down-regulation of Bcl-X L and IAP, the release of cytochrome c and inhibition of Akt. *Carcinogenesis*. 2003 Jul 1;24(7):1199-208.

World Health Organization. WHO Model List of Essential Medicines: 20th List. 2017 March.

Xu M, Rui D, Yan Y, Xu S, Niu Q, Feng G, Wang Y, Li S, Jing M. Oxidative damage induced by arsenic in mice or rats: a systematic review and meta-analysis. *Biological trace element research*. 2017 Mar 1;176(1):154-75.

Yadav A, Mathur R, Samim M, Lomash V, Kushwaha P, Pathak U, Babbar AK, Singh Flora SJ, Mishra AK, Kaushik MP. Nanoencapsulation of DMSA monoester for better therapeutic efficacy of the chelating agent against arsenic toxicity. *Nanomedicine*. 2014 Mar;9(4):465-81.

Yamanaka K, Hoshino M, Okamoto M, Sawamura R, Hasegawa A, Okada S. Induction of DNA damage by dimethylarsine, a metabolite of inorganic arsenics, is for the major part likely due to its peroxy radical. *Biochemical and biophysical research communications*. 1990 Apr 16;168(1):58-64.

Yamanaka K, Mizoi M, Kato K, Hasegawa A, Nakano M, Okada S. Oral administration of dimethylarsinic acid, a main metabolite of inorganic arsenic, in mice promotes skin tumorigenesis initiated by dimethylbenz (a) anthracene with or without ultraviolet B as a promoter. *Biological and Pharmaceutical Bulletin*. 2001;24(5):510-4.

Yi D, Hou Y, Wang L, Ding B, Yang Z, Li J, Long M, Liu Y, Wu G. Dietary N-acetylcysteine supplementation alleviates liver injury in lipopolysaccharide-challenged piglets. *British journal of nutrition*. 2014 Jan;111(1):46-54.

Yunis AA, Him LO, Arimura GK. DNA damage induced by chloramphenicol and nitroso-chloramphenicol: protection by N-acetylcysteine. *Respiration*. 1986;50(Suppl. 1):50-5.

Zafarullah M, Li WQ, Sylvester J, Ahmad M. Molecular mechanisms of N-acetylcysteine actions. *Cellular and Molecular Life Sciences CMLS*. 2003 Jan 1;60(1):6-20.

Zaragoza A, Díez-Fernández C, Alvarez AM, Andrés D, Cascales M. Effect of N-acetylcysteine and deferoxamine on endogenous antioxidant defense system gene expression in a rat hepatocyte model of cocaine cytotoxicity. *Biochimica et Biophysica Acta (BBA)-Molecular Cell Research*. 2000 Apr 17;1496(2-3):183-95.

Zubair M, Ahmad M, Qureshi ZI. Review on arsenic-induced toxicity in male reproductive system and its amelioration. *Andrologia*. 2017 Nov;49(9):e12791.