CARCINOGENIC AGENTS AND NON TRADITIONAL TREATMENT 
BY TOSSON A. MORSY¹, HAZEM H. M. KHALIL² and RABAB A. ABDEL MONEIM³
Department of Parasitology, Faculty of Medicine, Ain Shams University, Cairo 11566¹, Consultant of General Medicine² and Department of Clinical Oncology, Faculty of Medicine, Cairo University³, Egypt

Abstract
Cancer is responsible for more than 10 million cases worldwide and the numbers are increasing. About 27% of patients undergo spontaneous regression (remission) and healing by unknown mechanism that is likely immunological by activation of natural killer cells. For centuries, herbs and plants have been used for medicinal purposes and as food as well.

Key words: Cancer, Non-traditional cure.

Introduction
Common cancer types are bladder cancer, breast cancer, colon and rectal cancer, endometrial cancer, kidney cancer, leukemia, liver cancer, lung cancer, melanoma, non-Hodgkin lymphoma, pancreatic cancer, prostate cancer and thyroid cancer. The types of treatment that a patient receives depend on the type of cancer and how advanced it was.

Some people with cancer have only one treatment. But most people have a combination of treatments, such as surgery with chemotherapy and/or radiation therapy as traditional treatment. Also, there are immuno-therapy to treat cancer, targeted therapy, hormone therapy, and stem cell transplant.

This mini-review discussed non-traditional treatment.

Review and Discussion
Cancer risk factors are: diabetes mellitus, obesity, hepatitis C & B, alcoholism, any chronic irritation to an organ like skin by sun rays in predisposed fair skin patients causing skin cancer and as smoking is associated with cancer lungs in genetic susceptible patients (Hung et al, 2006). About 10% percent of cancer patients are familial that worth screening of family members. Human papillomavirus (HPV), Epstein-Barr virus (EBV), human T-cell lympho-tropic virus type 1 (HTLV-1), human herpes virus type 8 (HHV-8) and human immuno-deficiency virus type 1 (HIV-1) are predisposing agents (Bouvard et al, 2009). Blood flukes; Schistosoma haematobium and S. mansoni that cause schistosomiasis are endemic in many countries especially in sub-Saharan Africa and Egypt (Abdel-Aal et al, 2015). S. haematobium leads to urinary bladder cancer (Honeycutt et al, 2014); adenocarcinoma and squamous cell carcinoma by chronic inflammation and oxidative stress due to parasite-derived molecules (Blanchard, 2004). S. mansoni causes adenocarcinoma type; colorectal cancer and hepato-cellular carcinoma, prostatic adenocarcinoma and sigmoid colonic cancer (Kiremit et al, 2015) via inflammation, oxidative stress also by parasite-derived molecules (Madbouly et al, 2007). S. japonicum causes schistosomiasis in Japan, Southeast Asia, and other countries leads to colorectal cancer and rectal cancer; squamous cell carcinoma, membranous nephropathy and metastatic lung cancer by inflammation and oxidative stress due to parasite-derived molecules (Gryseels et al, 2006).

Liver flukes through eating undercooked fish and crabs are: Opisthorchis viverrini causing opisthorchiasis in southeast Asia leads to cholangio-carcinoma in 10% of infected cases (about 37 million asymptomatic cases) by inflammation, chronic irritation, and oxidative stress caused by parasite-derived molecules (Grusseels et al, 2006). Liver flukes through eating undercooked fish and crabs are: Opisthorchis viverrini causing opisthorchiasis in southeast Asia leads to cholangio-carcinoma in 10% of infected cases (about 37 million asymptomatic cases) by inflammation, chronic irritation, and oxidative stress caused by parasite-derived molecules (Grusseels et al, 2006). Liver flukes through eating undercooked fish and crabs are: Opisthorchis viverrini causing opisthorchiasis in southeast Asia leads to cholangio-carcinoma in 10% of infected cases (about 37 million asymptomatic cases) by inflammation, chronic irritation, and oxidative stress caused by parasite-derived molecules (Grusseels et al, 2006). Liver flukes through eating undercooked fish and crabs are: Opisthorchis viverrini causing opisthorchiasis in southeast Asia leads to cholangio-carcinoma in 10% of infected cases (about 37 million asymptomatic cases) by inflammation, chronic irritation, and oxidative stress caused by parasite-derived molecules (Grusseels et al, 2006). Liver flukes through eating undercooked fish and crabs are: Opisthorchis viverrini causing opisthorchiasis in southeast Asia leads to cholangio-carcinoma in 10% of infected cases (about 37 million asymptomatic cases) by inflammation, chronic irritation, and oxidative stress caused by parasite-derived molecules (Grusseels et al, 2006). Liver flukes through eating undercooked fish and crabs are: Opisthorchis viverrini causing opisthorchiasis in southeast Asia leads to cholangio-carcinoma in 10% of infected cases (about 37 million asymptomatic cases) by inflammation, chronic irritation, and oxidative stress caused by parasite-derived molecules (Grusseels et al, 2006). Liver flukes through eating undercooked fish and crabs are: Opisthorchis viverrini causing opisthorchiasis in southeast Asia leads to cholangio-carcinoma in 10% of infected cases (about 37 million asymptomatic cases) by inflammation, chronic irritation, and oxidative stress caused by parasite-derived molecules (Grusseels et al, 2006). Liver flukes through eating undercooked fish and crabs are: Opisthorchis viverrini causing opisthorchiasis in southeast Asia leads to cholangio-carcinoma in 10% of infected cases (about 37 million asymptomatic cases) by inflammation, chronic irritation, and oxidative stress caused by parasite-derived molecules (Grusseels et al, 2006). Liver flukes through eating undercooked fish and crabs are: Opisthorchis viverrini causing opisthorchiasis in southeast Asia leads to cholangio-carcinoma in 10% of infected cases (about 37 million asymptomatic cases) by inflammation, chronic irritation, and oxidative stress caused by parasite-derived molecules (Grusseels et al, 2006). Liver flukes through eating undercooked fish and crabs are: Opisthorchis viverrini causing opisthorchiasis in southeast Asia leads to cholangio-carcinoma in 10% of infected cases (about 37 million asymptomatic cases) by inflammation, chronic irritation, and oxidative stress caused by parasite-derived molecules (Grusseels et al, 2006). Liver flukes through eating undercooked fish and crabs are: Opisthorchis viverrini causing opisthorchiasis in southeast Asia leads to cholangio-carcinoma in 10% of infected cases (about 37 million asymptomatic cases) by inflammation, chronic irritation, and oxidative stress caused by parasite-derived molecules (Grusseels et al, 2006). Liver flukes through eating undercooked fish and crabs are: Opisthorchis viverrini causing opisthorchiasis in southeast Asia leads to cholangio-carcinoma in 10% of infected cases (about 37 million asymptomatic cases) by inflammation, chronic irritation, and oxidative stress caused by parasite-derived molecules (Grusseels et al, 2006). Liver flukes through eating undercooked fish and crabs are: Opisthorchis viverrini causing opisthorchiasis in southeast Asia leads to cholangio-carcinoma in 10% of infected cases (about 37 million asymptomatic cases) by inflammation, chronic irritation, and oxidative stress caused by parasite-derived molecules (Grusseels et al, 2006).
*Strongyloides stercoralis*, an intestinal nematode, causes strongyloidiasis and gastrointestinal ulcer worldwide especially in tropical and subtropical regions (Segarra-Newnham, 2007). About 50% of chronically infected patients were asymptomatic, but symptomatic ones may suffer severe skin pathology, diarrhea, nausea, and abdominal discomfort, complicated by autoinfection resulting in a hyper-infection syndrome and is associated with sustained infection, high worm burden and high mortality (Seo *et al.*, 2015). *S. stercoralis* hyperinfection was detected in part geographically associated with occurrence of HTLV-1 infections, in a large cohort of 5209 cancer patients strongyloidiasis was associated with an increased occurrence of cancers (Tanaka *et al.*, 2016).

Toxocariasis, a neglected socio-economically important zoonotic nematode that afflicts millions of the pediatric and adolescent populations worldwide, especially in impoverished communities (Morsy, 2020). Migrating larvae (VLM) was associated with increased leukocytosis, including generalized lymphadenopathy, endophthalmitis, granulomatous hepatitis, asthma, endomyocarditis (Carvalho and Rocha, 2011), eosinophilia (>30%) and bladder and liver malignancy (Kang *et al.*, 2014).

*Plasmodia* species: *Plasmodium falciparum, P. vivax, P. ovale, P. malariae, & P. knowlesi* causing malaria worldwide especially in sub-Saharan Africa (Saleh *et al.*, 2019) and Southeast Asia aiding Burkitt lymphoma; indirect carcinogenicity (Asito *et al.*, 2010) by expansion of the EBV-infected B cell population (Rockford *et al.*, 2005), suppression of EBV-specific T-cell immunity, reactivation of EBV & AID-dependent genomic translocation (Molyneux *et al.*, 2012). American *Trypanosoma cruzi* causing Chagas’ disease in South and Central America leads to gastrointestinal cancer and uterine leiomyoma (Krementsov, 2009). Antibodies against *T. cruzi* lysate recognized various rat and human tumor cell types such as colon and human breast cancer cells and thus mediate tumor cell killing by antibody-dependendent cellular cytotoxicity (Ubillos *et al.*, 2016).

Nevertheless, many patients don’t feel comfortable using traditional treatment in form of chemotherapy (Akiyama *et al.*, 2018) and radiotherapy (Wang and Jin, 2015). The main disadvantage of chemotherapy is its lack of specificity—apart from affecting cancerous cells, also it damages the surrounding cells/tissue—that leads to development of multidrug resistance during the treatment, and limitations can go as far as recurrence (Zhao *et al.*, 2018). Radiotherapy proved to be efficient when dealing with various cancers that are localized in specific body sites. This treatment also comes with several disadvantages varying from recurrence to morbidity (Narayana, 2014). Lungu *et al.* (2019) reported that disadvantages come with traditional cancer treatments, as chemotherapy and radiotherapy, generated studies shift to the nanotechnology. But, even with the important advancements regarding cancer therapy, there are still serious stepping stones that need to be addressed. The use of both nanotechnology and nano-medicine has generated significant improvements in nano-sized materials development and their use as therapeutic, diagnosis, and imaging agents. The biological barriers that come from the healthy body, as well from the tumorous sites, are important parameters to be taken into consideration when designing drug delivery systems. There are several aspects of extreme importance such as the tumor microenvironment and vasculature, the reticuloendothelial system, the blood-brain barrier, the blood-tumor barrier, and renal system. In order to achieve an effective system for cancer therapy, several characteristics of the nanoparticles have been outlined. They added that liposomes, polymeric, gold, and magnetic nanoparticles were tested as potential candidates for cancer treatments. These nanoparticles exhibit impressive properties such as versatility, functionality, biocompatibility, and other specific features. Great improvements were made so far for the use of nano-biomaterials in cancer therapy. However, there are still many challenges ahead,
and an advanced understanding of the biological features is needed in order to design systems with tailor-made properties.

No doubt, doctors usually don’t tell patients about nontraditional methods but there are many success stories using it. This includes: food special alkaline diet and limiting sugar intake as the basics of cancer cell starvation theory concepts based on characters of cancer cells that are avid much for sugar and rapidly dividing after acidic diet prolonged intake. This theory proposed after noble prize winner "Howard Otto", a German scientist on 1899. Intensive alkaline diet should be undertaken and advised even for healthy individuals of at least 60 to 80% of total amount of food intake daily to avoid post prandial academia which manifest by generalized weakness, shortness of breath. To limit protein intake also as it is precancerous according to studies that linked it to breast and colon cancers.

Siew et al. (2019) in Singapore declared a new scientific evidence for traditional use of local medicinal plant; Clausena lanzium, Lelea indica, Pereskia bleo, Strobilanthes crispus, Vernonia amygdalina and Vitex trifolia in cancer treatment.

Avoid fast food intake: soda, processed meat, processed cheese, fries and fried chicken, totally avoid white sugar intake and microwave popcorn. Recommended alkaline food intake are green leafy vegetables, red bell peppers, onions, garlic, cruciferous vegetables as cabbages, broccoli, turnip, beet & broccoli sprouts, berries as strawberries and pomegranate are antioxidants, also apple cider vinegar, limes, olive oil are of benefit.

Almost 25% of drugs used during last two decades were directly derived from plants, while the other 25% are chemically altered natural products (Vuorelaa et al, 2004). The thymoquinone derived from black seed (Nigella sativa) showed sustained inhibition of breast cancer cell proliferation with long-term treatment (Motaghad et al, 2013).

Also, the herbs intake as: Moringa (miracle tree leaves extract), Tiloke et al. (2018) gave the value of Moringa oleifera and its phytonanoparticles in natural medicine, synthesis of phytonanoparticles and the fundamental role as a potential antiproliferative agent against cancer. Besides, sweet worm wood (Artemisia annua) Artemisia annua possesses the capacity to produce high phenolic compounds resulted in high antioxidant activity. Five major groups (coumarins, flavones, flavonols, phenolic acids and miscellaneous) containing over 50 different phenolic compounds were identified analyzing A. annua (WHO, 2006). Ferreira et al. (2010) reported that artemisinin and its semi-synthetic analogs might become more effective to treat parasitic diseases (as malaria) and cancer if simultaneously delivered with flavonoids. Again as to Graviola (soursop, Guanana bana) fruit and leaves extracts, Kim et al. (1998) in USA reported that Soursop is a healthy fruit. Peels form about 20% of the soursop fruit and are usually discarded as waste product. With a view to utilizing soursop peel as a source of valuable compounds, this study aimed to investigate the influence of different extraction conditions on total phenolic content and antioxidant capacity of soursop (Annona muricata) peel. By-products of soursop such as its peel could be an inexpensive source of good natural antioxidants with nutraceutical potential. Extracts from Annona muricata (also known as graviola) are among a myriad of botanical products which have shown promising medicinal value (Rady et al, 2018). Ginger and curcumin in black pepper are strong antioxidants. Dehghani Nazhvani et al. (2020) evaluated the effects of different concentrations of four medicinal herbs including saffron, ginger, cinnamon and curcumin on oral squamous cell carcinoma (OSCC) cell line. The concluded that traditional medicinal herbs may potentially contribute to oral cancer treatment; providing new windows for the development of new therapeutic strategies for the OSCC. "You-you Toe" is a Chinese scientist who won Nobel Prize 2015 for discovery of the drug Atremisinin® (antimalarial drug).
extracted from sweet wormwood and she confirmed sweet wormwood efficacy as an anticancer medication in presence of iron as studied on cancer lung cell line. Also, *Fontainea picrosperma*, commonly known as the blushwood tree, is a rainforest tree in the family Euphorbiaceae endemic to Queensland in Australia, and grows on Atherton Tablelands (McKeith, 2016).

Shareef *et al.* (2016) reviewed the biochemical properties of *Allium sativum*, *Echinacea, Curcuma longa, Arctium lappa, Camellia sinensis, Panax ginseng* and Flax seed. The extracts and juices of *Withania somnifera, Amoora rohituka, Dysoxylum binecariferum* and *Vaccinium macrocarpon*, respectively also used as anti-breast cancer. They added that volatile oils and extracts of these herbs and plants inhibited the synthesis of mevalonate that lessen the tumor growth and cholesterol synthesis.

Alkaline diet (Alice, 2010) should be intensified for cancer patients like also the Austrian Scientist diet recipe regimen when mixed in a blender in the form of beets 65%, celery, turnip, potatoes which healed thousands of patients according to their success stories. Alkaline water as "Zamzam" well water is beneficial being alkaline (Yazdi *et al.*, 2017). Ketogenic (high fat, low carb) diet is an alternative that benefitted many patients (Schmidt *et al.*, 2011). Dietary given above are used for both prophylaxis and treatment of cancer.

Sodium bicarbonate 8.4% was given in an Italian polyclinic in high doses intravenously per protocol to cause starvation or cancer cells death with high selectivity, too, sparing normal cells (Zhang, 2017).

High doses of vitamin C of about 5 to 10 grams per day for 10 days are strongly recommended for its powerful anti-oxidant effect (Nomura *et al.*, 1991). Besides, vitamins D & E with intermittent fasting diet policy daily for 16 hours and limit food intake to one or two meals during the last 8 hours (Liang *et al.*, 2008). There are various mechanisms by which vitamin D influences the natural history of cancer, including the role of vitamin D in the induction of apoptosis, stimulation of cell differentiation, anti-inflammatory and anti-proliferative effects and inhibition of angiogenesis, invasion and metastasis (de La Puente-Yagüe *et al.*, 2018).

Hyperbaric oxygen sessions and ozone therapy are adjuvants to complete the regimen. Clavo *et al.* (2018) in Spain reported that *in vitro* and animal studies, as well as isolated clinical reports, suggested the potential role of ozone as an adjuvant during radiotherapy and/or chemotherapy. But, further research, such as randomized clinical trials, is required to clarify its potential usefulness as an adjuvant therapeutic tool. Kirby (2019) in USA reported that the initial clinical uses of hyperbaric oxygen capitalized upon physical effects to drive offending gases back into solution and give more oxygen to tissues in early treatments of decompression sickness. HBO$_2$ has a myriad of other effects, including stimulating angiogenesis and new cellular in growth for healing. Aghajan *et al.* (2020) in USA reported that the hyperbaric oxygen therapy is safe and well-tolerated in pediatric and young adult patients with CNS tumors and clinical and radiographic improvements were observed in over half of patients.

**Conclusion**

Listening to many success stories even healing with advanced stage 4 cancers by non-traditional treatment is encouraging the avoidance of psychiatric upset or depression, which usually bothers cancer patients. Further studies are advised to study the best regimen approach to cancer patients since it is still limited to apply non-traditional means and most if not all doctors don't talk to patients about it.

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