

A Novel Automated Immune Boosting Machine (Blueprint Glimpse) Which May Increase Life Span and Insight into Unexploited Benefits of Febrile Responses (Fever)

Manly Sani*

Department of Human Physiology, Faculty of Medicine, Ahmadu Bello University, Nigeria

Abstract

The essence of the review is to demonstrate the following, the evolution of a novel machine that could boost the body immune system, treat through hyperthermia, existing body abnormalities linked with febrile response, and make formidable the immune system if routine weekly exposure of individuals, whether or not in ill health is done, and again the operation of the machine will focus on adjustment of bio-thermal circles pertinent to induced pyrogen (for routine treatment) and non-induce non-pyrogen (as found in ill health) such that immediate immune response effectively, could combat existing disease in addition to protecting the body against future attacks generally. Febrile responses mediators, broadly speaking encompass dual types, pyrogens and non-pyrogen, pyrogens mediated are inducible even in absence of disease or abnormal condition, non pyrogen febrile responses usually emanate from disease or abnormal condition of the body (cancer, infectious disease and non infectious disease) in either case, resultant hyperthermia and immune responses are secondary to altered cellular physiological processes, among them are increases or decrease in metabolism of fuels molecules of the cells, mobilisation of mineral elements iron for instance, acute phase protein mobilisation, increase in uptake of de novo synthesized survival materials (may increase life span), activations of immune system chain reaction by secretion of immunological communicants such as cytokines and chemokines, sensitization and recruitment of other immune cells, ultimately also includes interactions between autotoxins and some immune cells, and as determined by the hypothalamic thermostat leading to increase in body defence mechanism and well being. Erroneously, temperature increase is seen as fever, however on the contrary, hyperthermal events is just one among many of its manifestations, for actually fever is systemic attempts to fight off pathological or abnormal attacks in the internal milieu, past findings adduced that fever is associated with many disease or abnormality, a fact that depicts a need for further research on survival value of fever, it has survival value (Kluger 1998), results obtained using mathematical methods in a novel way from previous findings and standard reference physioantibiochemical values were analysed with SPSS analytical package, dependent variables (Immune Strength Index (ISI), Values of Boosted Body Immunity (VBI), PARPS, Survival values, Life span increase) and independent variables (incremental values of febrile temperature values of pyrogen used, number of exposure to the machine) show strong correlation $P \leq 0.005$, temperature and survival value (increase in life span) for instance were subjected to Pearson bivariate correlation (2 tailed) method the results were statistically significant ($P \leq 0.005$), the discomfort which often accompany febrile response or fever had led to existence of wrong perception of fever among health care givers, researchers and health care receivers, a fact that led to denial of its life prolonging benefits, whereas I acknowledge that high temperature (34°C and above for instance is fatal) may affect the body adversely, and had over the years led to treatment of fever as controlled by resetting nature of the regulatory pre-optic area of the hypothalamus, benefits of febrile response research shows far outweigh this drawback, and therefore, the machine is designed to effectively control the hyperthermal negative effects, synchronously with internal physioantibiochemical parameters which must vary within narrow limits of normal values else fatal effects such as coma or even death results, this review attempts to elaborate the modality of the machine in boosting the immune systems and treatment of certain abnormalities. To surmise in other words, this discourse will shed light on the blueprint which with adequate investment, may expediently, become a reality for individual routine immune boosting even in absence of ill health, again beside treatment of most anomalies wherein febrile responses are present, it can also, in a novel way, augment most treatment modalities and especially the act of vaccination given the failure rate of latter. Note that fever is not restricted to incidence of infectious disease in rural areas, for it accompany plethora of so called urban diseases as well; cancer, trauma, inflammations, hepatitis and other organopathogenesis.

Keywords: Hyperthermia; Immune system boosting machine; Hypothalamic thermostat; Special treatment room; Pyrogen and non-pyrogen responses; Increasing life span; Immune system strength; Values of boosted body immunity; PARPS; Immune power

Definition of new terms

Special treatment room is a specially designed room in the hospital where the machine will be housed. VBI is values of strength of the immune systems following exposure to the machine, ISI is the immune strength time span. IP is immune power actual ability of immune system to fight off or attenuate an attack.

*Corresponding author: Manly Sani, Department of Human Physiology, Faculty of Medicine, Ahmadu Bello University Zaria, Abuja, Nigeria, Tel: 2347067151787; E-mail: sanitime2014@gmail.com

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Introduction

Fever according to past finding has survival values, the seemingly controllable lethal effects ostensibly, have masked the enormous benefits of fever as evident in frequent use of antipyretic treatments, the ease of attainment of palliative benefits of treatment of fever in spite of survival value, had over the years, lead to decreases in immunity and increase in susceptibility of humans to incidence of body abnormalities generally, presumably further studies may portray correlation of fever and life expectancy or life span, for research results obtained from animal studies are consistent with the premise which emphasize its survival values. Ultra-modern machines of disparate types are currently in use by many health institutions in treatment of many disease and diagnostic modalities, some of these machines are as large or larger than body surface areas, however, other are miniature devices with which experts utilize in prognosis, physio-biochemical parameter tests, diagnoses and treatment anywhere outside the confines of the medical institution, irrespective of size and utilisation, the functions of these machines and the various parameters they measure, unlike febrile response or fever, are not always associated with different ailments, this review screw into designed, creation and utilisation of a novel machine which harness the immediate and long time benefits of hyperthermia and immunity boost common in most febrile responses with sole aim of adding number to the life span of those exposed to machine, life span maximum is about 125 years, based on result analysis, it is clear that frequent exposure will push individual life span to extreme regions (80 years to 125 years) provided that other mortality causes like accident, fights, etc do not come into play, a special room in medical institutions will house the machine, for effective manipulation of microclimatic environmental variables of the room and the body. There are many quantum benefits, six among them are (1) General and specific immune system boost (2) Pathogenic effects (3) Attenuation of effects of etiological factors of abnormalities (4) Tumor cells death (5) low dose use of drug with narrow therapeutic index and hence warrant reduction in cases of drug toxicity, (6) prolong life and good health, The micro climatic variables of the room which includes relative humidity, wind and air, temperature etc would be automatically readjusted in tandem with body heat content, body heat transfer as modify by the brain hypothalamus, the aim is twofold (1) To extend time frame of immune response mediated by pyrogen and non pyrogens in which febrile response is present (2) To effectively control the controllable fatal nature of hyperthermal effects arising thereof so that natural immunity could be increased, it is not contestable that peak in immune boosting mechanism correspond perfectly and occurs within these extremes of mildly discomforting non fatal thermal values, (less fatal (30°C to 31°C) to mildly fatal levels (38°C to 43°C) in a manner that assuage the control of hypothalamus and then ensure actualisation of the intended benefits. In addition, the machine will incorporate the followings; various physio-anatobiochemical parameters test kits, various physio-anatobiochemical parameters measuring kits example cytometry apparatus, real time test result display monitor screen, real time imaging of in vivo physiological, biochemical and anatomical processes involve in treatment and diagnosis example values of PARPS, real time visualisation of body core and peripheral heat transfer as exchanges occurs between the special micro climatic environment and body surface area, and real time gauging of the immune system strength and lastly integrated automation ensured by use of softwares and electronic components, simply put the essence is to, by way of readjustment, use beneficial outcome of fever and by extension of hyperthermia and immune responses strengthened the immune system and hence prolongs life, again we anticipate adverse effects of hypersensitivity, allergic reaction for some individuals especially asthmatics, one of the functions of the real time test result display of the peripheral kit is to eschew unwanted effects, research

shows possible benefits of fever in infectious and non infectious body anomalies, interestingly fever is associated with mammoth ailments and however owing to the discomfort and in some cases fatal effects of heat shock, heat strokes, denatured protein etc treatment is given at its onset rather than first, harness the benefits of the fever itself, consequently undermining body attempt to fight the aberrant body condition via immune response and resultant hyperthermia, both of which manifest as fever. Also overtime, body susceptibility to attack is increase with present day of contaminated foods, diseases, pollutions (chemicals, air, water etc) owing to dampened immune system, perhaps decrease in life expectancy may be attributed to long time exposure to antipyretic treatments, consequence may not be immediate, but careful assessment of life span will reveal latent effects (so far the world have seen unreal values of life expectancy and life span, in fact in some area decrease in these values have been witnessed,) extremes of life span can be obtained by frequent exposure to the immune boosting machine, it appears to me that, frequent immune boosting with aid of naturally adaptive body mechanisms are the only media through which comprehensive rejuvenation of the body immune system and prolonged life span can occur. Like effects of aging, which occur gradually, so is weakened immunity caused by frequent treatment of fever directly or indirectly. Fever no doubt has benefits, thus the novel immune boosting machine is designed to maximise these benefits. Lastly, fever or febrile responses is actually immune response at work and therefore the longer the exposure time the better, provided that the heat output is kept in check effectively by the machine.

Normal Physiological Functions and the Indispensable Roles of the Immune System

Physio-anatobiochemical cellular integrity of body is ensured by the continuum of the body immune system defensive acquired and innate components, some of which include; (leukocytes, monocytes, lymphocytes, B and T cells, Macrophages, NK cells, and cytokines among others) their combine mode of action such as antigen presentation by T cells, agglutination, phagocytosis of macrophages, cytotoxic effects of NK cells, immune cells growth modulation by suppressor T cells, in addition to different roles of cytokines, interleukines and tumour necrosis factors have been described in the literature, the physiologic manoeuvre of cellular immunity, haemopoietic formation of all leukocytes, and peculiar self and non-self recognizing ability of immune cells are all activated together with internal physiologic processes such as hyperaemia, vasodilatation, and chemotactic communication, activation of sensory reception and neural input to maintain in a regular way, constant internal body defence machinery, for instance in HIV AIDS presence of opportunistic disease had been linked to low CD4 and CD8 counts, so that hitherto harmless sickness result to death, the ineffectiveness of treatment in advance state of immune deficient syndromes had been linked to immunity breakdown [1], thus it could be argued that immune boost often aid treatment, speed cure and healing in ill health. The internal milieu is constantly exposed to antigenic attack, the gut for instance contains host of bacterial which without the barricaded intervening immune cells could cause cancers [2], septicemia and other insults in the body, the physiologic processes are averse to both infectious and non infectious conditions, of course sometimes unintended effects of immune response may threatened normal physiological values and therefore good health, for wide variations well beyond narrowly acceptable limits had been described in allergies [3], hypersensitivity [4], glucocorticoid use in certain treatment attest to the fact [5,6], exceptional cases also encompass autoimmune disease [7], nevertheless

the body employ particular array of attacking cells differently for different situations as determined by specific physiologically mediated cellular immunity, both specific and non-specific immune categories, for instance. The pathological indication of poor immune health is a function of areas of the body susceptible to disease; and they are GIT, reproductive areas and the circulatory systems and zones of haemopoiesis. Research shows that immune benefits are found in the following respective physiological systems CNS [8], digestive [9], excretory [10] and the immune system itself. Additionally, the compensatory physiobiochemical mechanism of immune reactions are activated in each systems in interrelated patterns, example migration (macrophages, basophiles, neutrophils) and activation of other system by antigen presentation, recognition of membrane express protein or peptides etc present incontrovertible examples, again research report that molecular contact between extracellular matrix and migrating immune cells could impede activities of immune cells, for instance in myopathies involving neural degeneration and Blood Brain Barrier(BBB) protective barrier accounts for high rate of muscular dysfunctions [11], it is evident that in any one body area underlining tissues and cells, where immune cells, immune chemokines and cytokines readily have access, hyperthermia and attenuation or and most immune beneficial effects tends to be pronounced, Ganong shows that the anatomical structures are often subjected to alterations during immune responses, the changes encompass the cutaneous vasoconstriction, changes in receptive abilities of cutaneous receptors, again structural adjustment in other regions had been pointed out by recent findings [12] these changes do not favour the immune cells only but also their ability to recruit other cells with aid of autocrine and paracrine secretion(neuromodulators, cytokines, chemokines and compliments factors), furthermore immediate combine immune and hyperthermia attacks, immediate immune boost confers on the body ability to fight futuristic attack and therefore increase survival values as found experimentally [13], encompass both research and application imperative. Essentially, note that physiological deviations could illicit immune response, relevant scenario includes deviations occasioned by extreme exercise, malnutrition, insomnia, changes in biological rhythms, internal biochemical balance upset, improper turnover of certain intermediates, examples purines metabolism may precipitate gout type rheumatoid condition and then immune response, looking carefully at preceding points it is clear that immune cells intervention may be required in setting other than those cause by antigenic attack, clinical depression for instance deplete dopamine or produced deadly metabolites capable of initiating immune response [14], more so the situation is significantly seen in instance where excess physical stress translate into biological degradations and excessive destruction of cells, these cells most time liberates molecules involve in reportage of their apoptic or necrotic states and hence compensatory immune response which follows, for instance normal cells which metamorphose into tumor cells secrete a class of interleukins which attract the NK cells, another ability is expression of special receptors on cell membrane moiety, research shows that dying cells most time activate immediate early genes to facilitate cellular disposal through structural or functional changes formerly absent in the cell [15], so that self are treated as non-self, given that the vital roles of immune cells are independent of disease state, and that rapidity of responses determine the strength of immediate and subsequent defensive roles, it is therefore imperative that routine exposure to the machine be done, adjusting the mediators of immune system in a careful compartment, so that fatal outcomes are made abysmally low and tolerable as we shall see latter, indeed, indispensable nature of strong and vibrant immune system tortuously reached all aspect of biomedical fields concern with treatment, cure and well being,

notwithstanding these assailable benefits, unfortunately, tolerable discomfort of febrile response have denied humanity aforementioned benefits, now that modern life have warranted increase in consumption of certain items implicated in weakening of body immune systems and as a result, rampant prevalence and incidence of disease such cancer, diabetes, hepatitis, sclerosis Ebola etc which weren't in existence due mainly to strong immunity enjoyed in the past now abound, for types of treatment in those days means reasonably exposure to fever, although not in regulated manner and unwittingly done. No doubt, the evolution of modernity is instrumental to betterment of life enjoy by humanity consequently research need be directed to mitigate negative effects which threatens cooperates existence of mankind, to veer this trend, the idea of the novel machine was born, again it will create platform for both the sick and the healthy to boost their immune systems in addition to treatment benefits the sick will derived. The machine has ability to gauge the strength of immune system per exposure vis-a-vis internal changes of physiobiochemical values. Incidentally, the advance in nanotechnology [16] and software engineering [17] appears to mollify likelihood of incredulous hegemony of critics as far as dream actualisation, blue print implementation and utilisation of the machine for mankind betterments are concern.

Physioanatomical Roles of the Immune System Entities in Long Term Health Benefits

The overwhelming in vivo far reaching fever mediated immune benefits can be appreciated by cursory look at the functions of each of the entities of the immune systems, the entities here denote the immune cells, and their secretions necessary for restoration of normal body function, the holistic health status as define by WHO [18] is of immune functions and hyperthermia, microscopic dissection of functional roles of these entities is all encompassing, thus it means that the five benefits of the machine already mentioned need further elaboration, it is not contestable that compendium of research records of these immunological roles in therapy had been capitalise on in creating artificial alternatives used in treatments and in some cases management of acute or chronic diseases, in as much as production levels, time span of action and other immune effects of in vivo immune entities are in similitude with production levels, time span of action and other effects of ones produce by the artificial medium, it would make research sense to programmed the body Biochemically, physiologically and anatomically for proper utilisation of these de novo synthesize vital immunological secretions and cells, I posit that a stronger levels of defence may be attained if in vivo immune boosting is combined with synthetic entities analogues, prior event of disease outbreak. Sadly, recent outbreak of Ebola in West Africa and number of death per thousand recorded also show level of poor strength of immune health among the populace, for if it were in the distance past, mortality rate will be less owing to body protective ability galvanise by the immune system except in areas with high prevalence rate due low hygiene and low standard of living, although WHO actually approves the use of blood of survived victims as alternative to vaccines [18,19] given the failure rate of present artificial vaccines, but a weakened immune system may lead to disappointing results, also assuming most people were expose to treatment of the novel immune boosting machine even when they were not sick, immune boost would have circumvent the deadly immune-deficient tendencies of Ebola and other deadly viral insults and death so far recorded, progression of genocides threat of cancers and all other deadly disease inclusive of non infectious ones, globally could be halted by mere immune boost on regular bases, not necessary during sickness, again boosted immunity will no doubted argument efficacy of most

other therapies, for assuredly vaccine use and efficacy is a function of strength of the immune cells, in an inefficient immune systems, memory cells production and overall sensitizing ability of immune cells are impaired [20], consequences includes but not limited to inefficient haemopoiesis, poor recruitments of immune cells and deficiency in comprehensive responses required in most immune attack, alarmingly, it could make uselessness of vaccines, some vaccines definitely required input of two or more immune cells to be effective and that is if efficient sensitivity of the immune systems is intact, low immune cell count may affect adequate sensitization in overwhelming disease, the remarkable aim of the machine design is to eschew drawback of this semblance. Research shows that artificially synthesise interleukins had been used in treatment of the following; post surgery in patient with chronic hepatitis B infection [21], in HIV infection [22], in cancer treatment [23]. Findings also shows the relation of fever and immune response [24] and hyperthermia [25] physioanotobiochemical processes [26].

The Table 1 above show functions of some immune components as well as immono-secretions, types included are passive immunisation, passive natural and passive artificial immunity respectively, Active immunisation which include active natural, and active artificial or synthesise immune entities. The list is far from being exhaustive, functions and line of defence in 2nd and 4th column show how single limited localize immune event can cause globalise in vivo immune actions comparable to chain reactions, this fact underpins the need for regular exposure of individual to the immune boosting machine. Again it could be inductively seen that activation, recruitment and sensitisation processes, and immune cells ability to recognise specific cell structures receptor on membrane account for immediate and long term protective capacity of the body which justifies the uses of the machine. Synthetic type abounds also, I propound that immune cells are capable of performing the anticipated roles of synthetic analogues in vivo with aide of the machine, considering that effectiveness of immune functions is time dependent, also the machine will circumvent properly, the thermal fatal effects of fever at values of thermal extremes, frequent use of synthetic analogue have drawback of toxicity, nevertheless unanticipated benefits may be recorded when used with the machine. Literature records show that there is fervency of interest in development and used of artificial immunological components for vaccines and drug creation because of their curative values and efficacy, ironically the intimacy between the immune cells and the internal environment had lead to low efficacy of vaccines so far developed, curiously it appears that invading antigens have machinery which enables it take advantages of these intimate relation, thereby again making uselessness of vaccines, usefulness is seen only when toxic substances are used, as mentioned some expert suggest revert to use of attenuated or live vaccine antigens [19], for instance HIV/AIDS vaccines campaign have eluded global effort of innumerable research works, unabatedly, viral fight with immune cells lowers the count of latter, the amoeboid nature of most viruses is another factor of failure rate [27], vaccines is good, immune boost on regular bases may effectuate vaccines usage, it is not contestable that effectiveness of vaccines depends on state of immune system of the individuals also as already mentioned [28], in spite the benefits of the immune responses and hyperthermia, most often than not medicament is given to treat most febrile responses, fever manifestation aid the attainment of immune system objectives inclusive of crucial role of immune cells sensitization and activation typical of basic principle of vaccines developments and immunisation use, Importantly also, with aid of the machine, obtained normal immune power (IP) values will prevent incidence of disease and abnormalities, for most disease and

abnormalities be they viral or not, certain count of the immune cells must be maintained for normal protective ability of the cells, counts below these normal values will translate into immuno-deficient cases and again latter is time dependents, latent phase of most chronic sickness as found in AIDS, Hepatitis, EVDs attest to this assertion [29], the machine will boost the immune system in so many ways, it will also ensures that immune element not related to fight against medical condition at hand are brought to bear, research shows that recruitment, sensitisation and recognition of specific proteins is the hallmark of immune protective ability of the body, types and localisation of the immune cell also depend on anatomical structure [30-47], it will require high quality research work to capture, adequately the exact roles of each entities in a complementary and interrelated manner that is devoid of false positive results outcome, this is necessary so that on screen captured data will result in logical and valid interpretation of experimental results prior the automation of the immune boosting machines or application of outcomes when use in real life situation, in other words, particular bench mark of the body immunity can be obtained naturally, the immune bench mark and hyperthermia values obtained experimentally will form range of automated values which the health care givers will input and compute as the medical condition may demand, that way favourable micro room climate can be adjusted to a very great extend, while still warrant that hyperthermia and immune boost benefits prolong life span (life span =80 to 125 years), it is assume that in real life application of the machine, immediate treatment of fever or pyretic conditions present in diagnosed condition be withheld, so that the machine would, by adjustment and readjustment of the fibrilar response, prolonged the accompany temperature, the immune strength values gauge indicators will determine next line of medicament, Rhodes et al base on findings shows that two situation could cause fever(a) infectious (sexually transmitted diseases, coughs, cutaneous disease etc) (b) non infectious (inflammatory processes include but not limited to trauma, neoplasm, acute haemolysis, aberrant immunological situations and tumors) .

However, in boosting the immune systems of healthy individuals, there will be special scenario in that pyrogen (special immunisation) which can cause immune response will be introduced in sufficient quantity to cause maximal immune response, maximal hyperthermia, and eventually maximum life span, in sick individuals if there will be need to treat etiology of ill health after exposure, subsequently low dose medicaments will be introduced in consonant with values of immune strength indicators, physiologic parameters and other such parameters that will be recorded by the immune buttressing machine, fortunately certain cells or pathogens can't survive in therapeutic environment of high temperature extremes of the body(33°C or 34°C) examples include bacillus Psychrophiles (30°C), Neisseria Gonorrhoeae (38°C), amoeboid protus (35°C), chlamydomonas Nivalis (4°C), skeletonema constatum (28°C) and many more can be effectively destroyed or attenuated in pre or post pathogenesis.

Indispensible Role of Hyperthermia in Homeostasis and Physiologic Implications

Disease, trauma, presence of abnormalities or mere changes in the environment can alter normal homeostatic states and reflex compensatory mechanisms associated with mild to large variations, array of these homeostatic and homeokinetic indicators includes the following; PH, electrolyte balance, circulatory stress, hypervolemia, hypovolemia, vasodilation, endocrine hormone plasma levels, autonomic outputs, appetite, thirst, metabolism, circadian rhythm, emotional stress tolerance, and again their wide variation have health implication, hyperthermia in fever usually affect normal values of

Immune system entities	Immune Roles	Produced in	Line of Defence
Skin	Protection: lysozymes obliterate bacteria, keratinocytes produce cytokines for immunity and B defensins to deter microbial invasion, also gives mechanical protection and prevent ultraviolet rays effects		1 st
Cells Neutrophil	Kill pathogens by enzymes and superoxide actions; secrete cytokines the Immune power (IP) mediators, e.g. PAF platelet aggregating factor.	Bone marrow, spleen or liver	2 nd
Eosinophils	With cytotoxic granules, enzymes, protein, ECP defend against parasitic infections, secrete cytokines an IP mediator in inflammations and immune responses.	Produced in the bone marrow, liver or spleen	2 nd
Basophils	Release inflammatory regulators histamine and serotonin in anaphylaxis and hypersensitivity, destroyed pathogen by interleukin 4 actions with the aid of heparin	Bone marrow, liver, spleen	2 nd
Mast cells	Produced histamine, and heparin, mediators of allergies and anaphylaxis	Tissues	2 nd
T cells TH1	Increase Immune power, utilise IL-2 to activate other T cells, trigger NK cell cidal action on pathogen, tumor or damage tissues, turns on macrophages and cytotoxic cells		2 nd
TH2	phagocytic actions Activates B cells, proliferation of plasma cells, involve in antibody making and proliferation by interleukin 4 and 5 actions, shows CD4 protein	Bone marrow and thymus gland	2 nd
Cytotoxic T cell	Destroyed microorganism by lysosomal activities, destroyed cancer cells and transplanted tissues, kills virus and viral infected tissues, displays glycoprotein CD8	Bone marrow and thymus	2 nd
Suppressor T cells	Protect body tissues as the name implies suppress non specific action of natural killer cells		2 nd
NK cells	Response to lipid and carbohydrate sequence in cell membrane, obliterate actions of virus, i.e. virus in tissue, tumor, malignant cells. transplanted tissues, secretes many cytokines IL-2, TNF, Interferon and GM-CSF, initiate attack against virus		2 nd
Memory T cells	Exist in all body tissues especially lymphoid tissues, gives prolong Immune power(IP), fight subsequent invasions		2 nd
Dentric cells	Present class II MHC bound molecules and HLA to B cells, activate B cells. Cause proliferation of B cells, activate T cells (NB cellular immunity mediators)		3 rd

Macrophage	By Phagocytosis , digest and present antigens to B and T cells, activates of T cells and B cells (NB cellular and humoral immunity), secretes cytokines which attack other immune cells, gives pronged IP, increase growth and numbers of B cell clones.	Bone marrow And tissues	2 nd
PNM		Bone marrow, mature in thymus tissues	2 nd
B cells	As in above when very large, give strong prolonged IP,	Bone marrow,	2 nd
Memory B cells	Secrete millions types of antibodies with specific reactivities, fight bacterial infections Gives strong IP which is vital for vaccines and exposure to the immune machine, form potent antibodies, fight infections, Produces large number of anti bodies, gives extended IP base on it life span.	B cells in plasma	2 nd
Plasma cells	Gives defense in secretion, involves in antigen recognition, allergic reaction, complement activation,	B cells in plasma	2 nd
Antibodies IgA IgD IgE IgG IgM	Have many protective actions; direct are agglutination, precipitation ,neutralisation ,Indirect are compliment system, opsonisation lysis, chemotaxis, agglutination, raagin activities, neutralisatio to destroyed antigen and antigen recognition,	B cells in plasma	2 nd
Platelets	Clotting and immunity	Bone marrow	3 rd
Immuno Secretions and immune molecules			2 nd
Interleukins (IL)			2 nd
IL-1	It caused inflammation, turn on T cell and macrophages, and aid in the production of T cells, involve in heamopoises		2 nd
IL-2	Accentuate the immune work of NK cells, lymphocytes and macrophages	Macrophages	2 nd
IL-3	Involve in heamopoises	TH1	2 nd
IL-4	Activate T cells and cause interchange of function between IGE class	TH2, mast cells, granulocytes	2 nd
IL-5	Manipulate the action of IgE, T cells Growth and maturation of eosinophils	TH2, mast cells, granulocytes	2 nd
IL-6	Vital role in production of acute phase proteins, aid growth and maturation of B cells, also enables immune roles of B cells	TH2 and macrophage	2 nd
IL-8	Caused migration(chemotaxis) in eusinophils, basophils, and lymphocytes to site immune demand	Lymphocyte and Macrophages	2 nd

IL-11		Bone marrow	2 nd
IL-12	Helps in Formation of acute phase protein		2 nd
Other ILs		Macrophages	2 nd
TNF α	There are many types and their isoforms, are involve in immune boosting venture <i>in vivo</i>	Lymphocytes, NK cells, macrophages	
TNF β (lymphotoxin)	Caused inflammatory response	Lymphocytes and B cells	2 nd
Transforming growth factor β	Cause occurrence of processes of inflammatory response		2 nd
Granulocyte-Macrophage colony-Stimulating factors	Suppress the immune system	Lymphocytes and B Cells, mast cells	2 nd
Interferon α	Increase the maturation of granulocytes and monocytes	Lymphocytes and B cells	2 nd
Interferon β	Strengthens the integrity of cell membrane and gives resistance to viral attacks	Lymphocytes and B Cells, NK cells	2 nd
Interferon γ	Fight viral attacks		2 nd
Chemokines	Stimulate actions of macrophage, block actions of type 2 Tcells (TH2)	Cells with virus	2 nd
Defensin	Attract immune cells to site of action	Cells with virus	first
Platelet activating factor	Immune protective function in the skin	TH2 and NK cells	3 rd
SCF	Cause aggregation of platelets, surround and phagocytise pathogens	Most immune cells	1 st
G-CSF		Skin	1 st
GM-CSF	Heamopoises Heamopoises Heamopoises	Platelets Granulocyte As in above As in above	1 st

Table 1: The Table below shows each types of immune entities and their functions. Note CSF implies colony stimulating factor, GM implies granulocyte macrophage, SCF means stem cell stimulating factor.

these indicators. [48] shows that hyperthema is one of the systemic changes which occurs in order to correct any one imbalance they cause, past findings shows that homeostatic adjustment in EP/LEM induces hyperthermia are acute phase globulins increase [49], neutrophils release from bone marrow [50], changes in plasma iron concentration [51], and in spite their physiological benefits, they can up turn the normal state of the internal body steady state, a fact that underscore the regulatory role of the machines by proxy (the room temperature variables; relative humidity, air pressure, ambient temperature and other heat transfer processes inclusive of radiation, convection, and evaporations, specific heat capacity etc.

Endogenous and exogenous pyrogens mediated Hyperthermia and fever have direct bearing on both cellular and humoral immunity in

the body.

Evidently in the above diagram stage 5 is manifestation of stage 1,2, and stage 2 is the points of massive activation of other immune cells, stage 3 will be targeted by the machines to circumvent detrimental effect of high temperature (at 43°C) Starling and Lovatt posit that above 35°C the heat loss is entirely by evaporation, therefore it will be illogical to treat fever or febrile response without harnessing the befits, again in way regulated by the machines.

Immune Boosting Machine and Bio-Transfer Models

The immune boosting machine

Note that extensive research required to provide sufficient evidence

on fever-immune relations had been done, more research effort is needed, it is noteworthy that the outcome of the research need be consistent with the preposition that immune system boosting capability of fever and therapeutic use of hyperthermia can prolong life (have survival values) as already mentioned. The machine basic components includes; heat generating devices, refrigerants, physiological, biochemical and anatomical parameters testing kit, lab equipments automatically linked to other parts of the machine and real time result displaying monitor screen, similarly, all other components will be linked together, it will use machine mechanical principles to generate heat base on the room micro climatic variables, Relative humidity pressure, temperature, convection and evaporation, it is assumed that the hypothalamus can be controlled and steadied by proxy since the environmental variable will determine extent of heat loss and thereby ensure maximum use of benefits of hyperthermia and increase in immune strength. The machine will also incorporate tent or bed, however the machine main work will be supply of heat or cold as the case may, to adjust the room micro environmental variables vis-a-vis body temperature (core and peripheral) in the range of 33°C to 34°C over extended period, note that real time measuring of the physiobiochemical parameters will prevent the incidence of coma or even death, or simply it will ensure proper monitoring, when adverse effects begin to appear, the kit will include ability to measure the specific dynamic action of food (proteins, carbohydrates, vitamins, fat and water, Q10, RQ oxygen supply, metabolism and any other thermogenic events emanate from immune actions (stage 4 of Figure 1) research shows that thermal conductivity, tissue density, heat storage and exchanges between the blood and tissue on one hand and between tissue and tissue on the other has been used in machines meant for treatment of cancer [31], other vital components of the machine are gauging meter; immune strength measuring apparatus, value topper, value exporter and value importer etc, these will track roles of the secretions (neuromodulators, cytokine) during the exposure time, the design of the machine will take into account energy balance equation for the environment and as applicable to the body system heat exchanges wherein control system adapts point by point reading, assessing, interpretation and output of data for on ward transfer and integration in other part of the immune booster, values quantity of heat and specific heat capacities of the universe may be required.

Finally, given the number of death caused by all entities that affect health-life relations research on fever ability to prolong life is a medical emergency, findings involving current body thermal exchanges were mainly motivated by other applications not related to biomedical research or hospital uses, other components of the machines are thermocouples and various types of thermometer, the function of each component (lab test kits, physiological measuring parameters, heat content determiner, values indicators will be linked using software to ensure automation properly.

Note that areas where adjustment of values favours the following (The TGs), (1) Heat flow from high to high region (enable manipulation of cellular and physiological events example mild fatal temperature of 42°C maintained per unit time, for at this values maximum benefits of immune boost and hyperthermia are obtained (2) Heat flow from low to high region (to ensure that balanced steady state is reached, after exposure to extremes of 40°C or 43°C i.e. about increment of 3 degree Celsius) note exposure per unit time to the machine at increment of 3 will make survival values increase by 10% see estimated result from past findings below. (3) Heat flow from high to low region (ensure endurance, relaxation, invigoration to tolerable state of discomfort which occur during treatments) effectively will prevent denaturing effect of high temperature, restore functional integrity of the cells,

maintain electrolyte balance, fluid composition, volume and all the steady state parameters, and time interval for data collection (as read and interpreted by data interpreter attached to physiologic, biochemical and lab test kits respectively), IP values may necessitate increase or decrease in heat source, increase in room temperature, increase in negative or positive values of the TGBIII exchangers as the case may require, so that the hypothalamic thermostat is steadied, increase or lower at TGd, TGe, TGf in directions that favours prolonged immune boost and hyperthermal effects, on the other hand once maximum value of immune boost or hyperthermal therapy is reached base on ideal time frame deemed safe for the individual patients or healthy ones, then adjustment will be done to shift primarily the mildly fatal values of 34 to 41 reading on the thermometer, in addition the physiobiochemical values adjustment and shift will likewise follow same pattern, exposure to the machine could be done in both healthy and non healthy individuals, given that both state of health need strong functional immunity for survival, all regulations and adjustments will be based on accurately determined experimental values, for instance presumably, 5 hours exposure per month may be done to achieve the objective of long time immune boost and thus prolong life span, I posit that in sickness antipyretic use need be withheld until patients are exposed to the machine for three days each, in a regulated manner, for preceding 3 days of exposure maximum benefit of the immune boost would have been realised. Variations no doubt could impair body functions, thus sensors and all other body parametric values determiners will check mate any dangerous variations that may arise during exposure accurately, so that by proxy the hypothalamus will be regulated by the machine in all ramifications to maintain tolerable side effects (mainly discomforts).

Frequent treatment of fever and use of antipyretic without adequate exposure to the ensuing fever events (immune boost), research showed, could lower life expectancy or life span in that the physiologically naturally formidable body ability to strengthen its immune systems is frequently compromised and as a result humans nowadays have very low resistance to most diseases incidence, treatments most time involve use of substance which do not give cure owing to weakened state of the immune system, some of the substance may affect functional state of the most organs adversely, some drug used at lower dose in a body with strong immune state tend to be efficacious, thus proper frequent exposure of healthy or ill individuals to the immune boosting machine will boost the immune system and also ensure use of low dose drug in treatment of certain diseases (Cancer, HIV/AIDS, Diabetes, etc), finally compared to adverse effects of other treatment methods, adoption and use of the immune boosting machine may cure certain disease without the need for further treatment as mentioned, it could boost the immune system in healthy individuals, reduced incidence of aging (owing to PARPs actions), boost immune power, shift life span and life expectancy values to their extremes (80 to 125 years) and then increase survival values at least by 10% per exposure to the machine.

Body Heat and Body Heat Exchange Models

Research into bio thermal exchanges has led to evolution of heat models, also most experimental results show concordance with those obtained from model principles and mathematical manipulation. There are two main types of body thermal transfer; multi layers element and multi elements model, most of the models make use of cylindrical attribute of the body, usually in model design, the entire body or any part of the body is represented as a cylinder, morphologically human body parts; head, upper limb, abdomen, and lower limbs are cylindrical in shape, for instance a biothermal model consider heat loss by perspiration

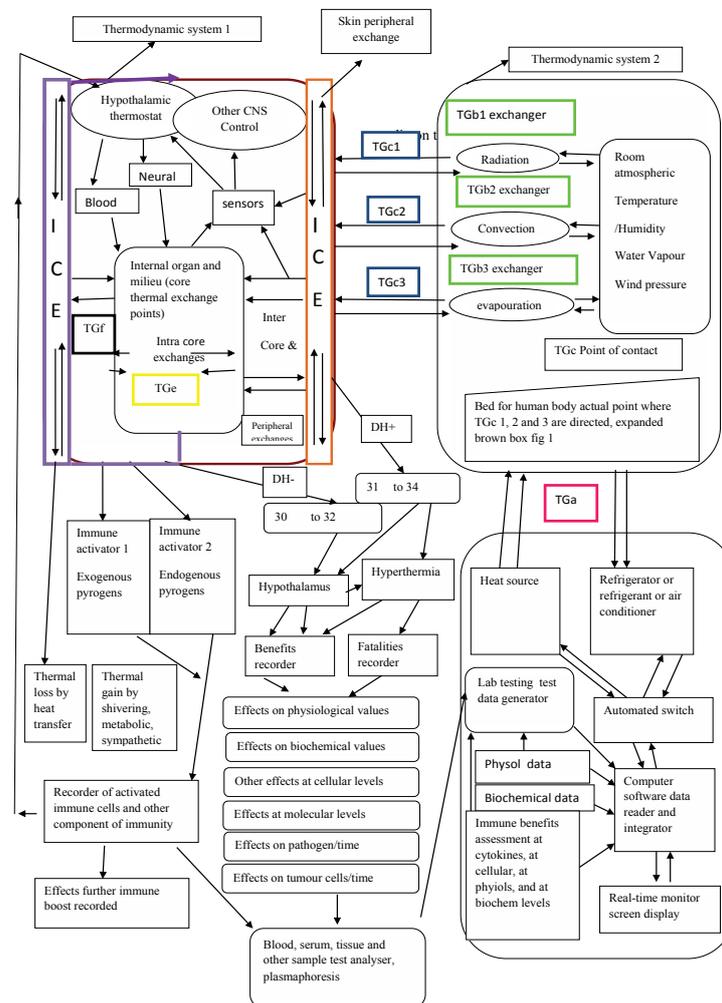


Figure 1: Flow chart of components parts of the Immune system Boosting Machine. ICE means inter cutaneous exchange of heat, physiol mean physiology, TG implies thermal gradients. DH: heat enthalpy, atm: atmosphere, physiol: physiology, biochem: biochemistry, R: relative humidity, CNS: central nervous system, peri: peripheral, ex: exchange, DH: change in heat content of the system. Note that areas where adjustment of values favours the following (The TGs), (1) Heat flow from high to high region (enable manipulation of cellular and physiological events example mild fatal temperature of 42°C maintained per unit time, for at this values maximum benefits of immune boost and hyperthermia are obtained (2) Heat flow from low to high region(to ensure that balanced steady state is reached, after exposure to extremes of 40°C or 43°C i.e. about increment of 3 degree Celsius) note exposure per unit time to the machine at increment of 3 will make survival values increase by 10% see estimated result from past findings below. (3) Heat flow from high to low region(ensure endurance, relaxation, invigoration to tolerable state of discomfort which occur during treatments) effectively will prevent denaturing effect of high temperature, restore functional integrity of the cells, maintain electrolyte balance, fluid composition, volume and all the steady state parameters, and time interval for data collection (as read and interpreted by data interpreter attached to physiologic, biochemical and lab test kits respectively), IP values may necessitate increase or decrease in heat source, increase in room temperature, increase in negative or positive values of the TGbIII exchangers as the case may require, so that the hypothalamic thermostat is steadied, increase or lower at TGd, TGe, TGf in directions that favours prolonged immune boost and hyperthamal effects , on the other hand once maximum value of immune boost or hyperthermal therapy is reached base on ideal time frame deem safe for the individual patients or healthy ones, then adjustment will be done to shift primarily the mildly fatal values of 34 to 41 reading on the thermometer, in addition the physio biochemical values adjustment and shift will likewise follow same pattern, exposure to the machine could be done in both healthy and non healthy individuals, given that both state of health need strong functional immunity for survival, all regulations and adjustments will be base on accurately determined experimental values, for instance presumably, 5 hours exposure per month may be done to achieved the objective of long time immune boost and thus prolong life span, I posit that in sickness antipyretic use need be withhold until patients are expose to the machine for three days each, in a regulated manner, for preceding 3 days of exposure maximum benefit of the immune boost would have been realised. Variations no doubt could impair body functions, thus sensors and all other body parametric values determiners will check mate any dangerous variations that may arise during exposure accurately, so that by proxy the hypothalamus will be regulated by the machine in all ramification to maintained tolerable side effects (mainly discomforts). Frequent treatment of fever and use of antipyretic without adequate exposure to the ensuing fever events(immune boost), research showed, could lower life expectance or life span in that the physiologically naturally formidable body ability to strength it immune systems is frequently compromised and as a result humans nowadays have very low resistance to most diseases incidence, treatments most time involve use of substance which do not give cure owing to weakened state of the immune system, some of the substance may affect functional state of the most organs adversely, some drug used at lower dose in a body with strong immune state tend to be efficacious, thus proper frequent exposure of healthy or ill individuals to the immune boosting machine will boost the immune system and also ensure use of low dose drug in treatment of certain diseases (Cancer, HIV/AIDS, Diabetes, etc), finally compared to adverse effects of other treatment methods, adoption and use of the immune boosting machine may cure certain disease without the need for further treatment as mentioned, it could boost the immune system in healthy individuals, reduced incidence of aging(owing to PARPS actions), boost immune power, shift life span and life expectancy values to their extremes (80 to 125 years) and then increase survival values at least by 10% per exposure to the machine.

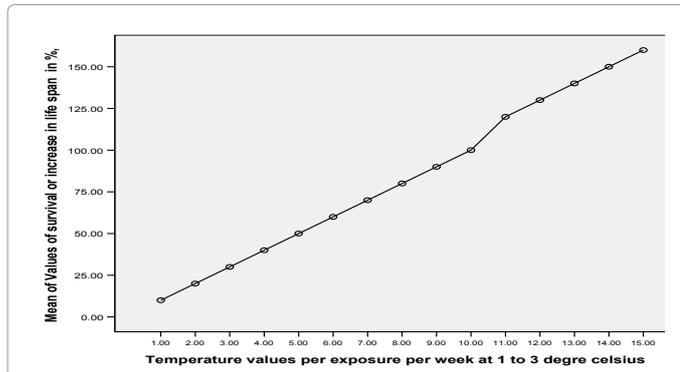


Figure 2: Mean plot of increase in temperature values and survival values in% Note that on X axis inputted values were estimated in a novel way base on recent experimental results, for instance research find that every for any one increase in temperature survival values increases (Kluger et al. 1998, Coper 1995, and Vaughn 1980) again note that for each exposure at incremental of 1°C to 3°C (38°C to 41°C or 42°C in Human) therefore we determine the chances that for each 3°C there will be 25% increase in surviva values or life span, given the fact of the role of SPARPS, constant frequent strong immune system in life span and life expectancy. Additionally it has been established that aging is related to roles of SPARPs in lymphocytes. By implication each exposure to the immune boosting machine will increase survival value by approximately 25% as shown below.

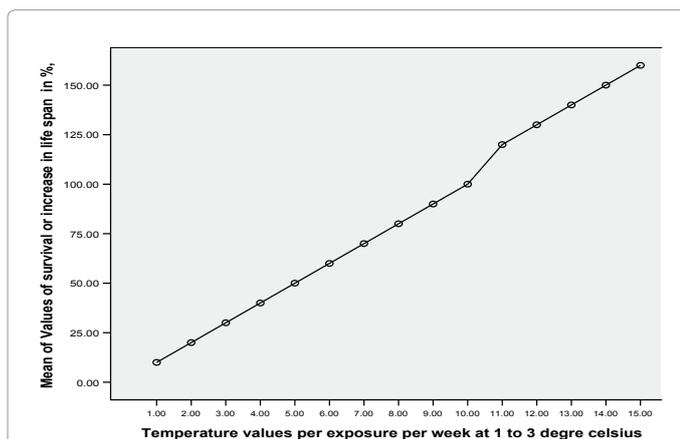


Figure 3: Modified figure of mean plot of temperature and survival values. Each lines in the above figure shows point of temperature increment per exposure, except the purple line which denote the point of inflection of the curve, meaning that any increase in frequency of exposure to the machine would at certain point push the survival values, life span or life expectance values toward extremes of the maximum known values (80 to 125 years), frequency of exposure is a factor of certainty to attain extremes values of life expectance or life span (80 to 125 years), also note the steepness (gradient of the slope) between the two points (orange arrows) just after the inflexion, thus it could be inferred that individual in healthy state or in diseases state frequently exposed to the immune boosting machine will have strong immune power (IP) on the range of 18 to 125 years that individual may live up the extremes values of life span (80 to 125) provided that other causes of mortality (accidents, other sudden means not related to the normal or abnormal pathophysiological state) do not come into play, note that the values used were roughly estimated from reference values in the physiological text and recent findings, for every temperature rise (1 to 3°C)% increase in life span occurs.

and counter current exchanges between large veins and artery, he divided the body into homogenous 6 isotropic cylindrical elements with four concentric layers (bones, muscle, fats and skin), additionally, he solved analytically, the steady state of bio heat equation for each cylinder, Wissler second model incorporates extensive study with body geometry, base on hemodynamic, respiratory and cuteneoue heat loss,

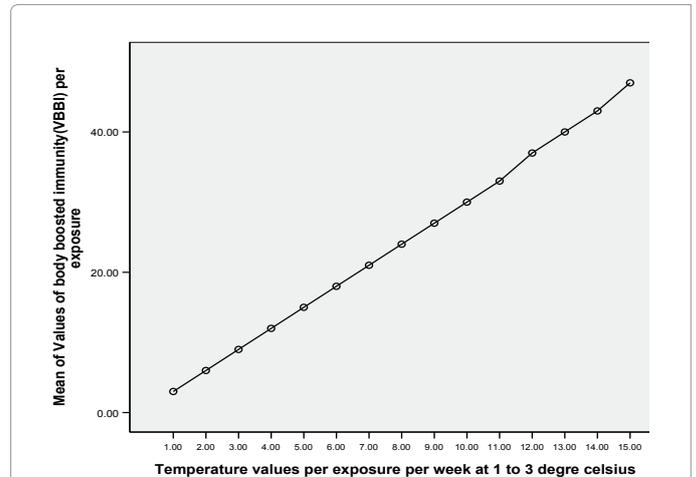


Figure 4: Graph of VBBI vs incremental values of temperature per exposure A graph of Values of Boosted Body Immunity (VBBI) and temperature of pyrogen induced febrile response(all values were estimated in a novel way from past find results and reference values). A graph of temperature values of febrile induced temperature against mean values estimated values of boosted body immunity what I called immune power (IP) or the immune strength, two factor were considered in the determination life span, number or millions of immune cell per cu mm, per total volume of fluid per approximate values of tissues per mm as divided in universal theory of therapy(Boyo Blossom Hans Universal theory of therapy unpublished), it not contestable that such physioanatochemical values have been determines and are obtained in some texts [65,66],

he divided the body elements into three part, each of which includes vascular arteries, veins and capillary, it was a steady state models solve with the aid of Ran-Nichosons implicit differential methods. In each case radial distance of each elements where divided into five points and each point was solve using Gaussian elimination method repeatedly, computed result from fortran program agrees with expirmental data of varying conditions (Smith 1991), other points which the models take into account include energy balance equation for each tissues, heat storage, metabolic heat generation, convection, heat transfer due to blood vessels and the heat condition in radial direction or direction normal to body centre lines. A single element model has been intuitively researched on also [5]. Owing to these limitations, other improved models such as Gaggemstolwijk, elder ade yasim models respectively were created, more so control of flow of blood and metabolic heat areas related to control system equations which employ oxygen requirement were used. Most models were formed using the following steps (1) Know the characteristic of the system to be represented in the model, the purpose and the idealisation of the system (2) Change the entire sites to mass forms represented by symbols in equations, real quantities and processes are replaced by mass symbols, maths form results are studied with technical to make predictions and create theorem from empirical standpoints, then maths and real world result are compared for accuracy, some models shows how colour variation could imitate thermal values (Figures 2-4).

Hypothalamic Adjustment of Internal Body Heat Content in Fever and Bio-Heat Transfer

Thermoregulatory Roles of Hypothalamic Thermostat

Basically, the hypothalamus sub serve functions of activator of afferent signals and a sensor of heat stimuli in fever, the state of the body core and the peripheral temperature in fever are sensed via blood circuit in the brain, when heat content discrepancies in extremes of low

temperature 35°C to 36°C or high temperature 38°C to 42°C occurs, heat gain or heat loss centres are activated, these centres are OVLTB of the circumventricular organ, anterior and posterior preoptic area of the hypothalamus, extra hypothalamic centres (midbrain reticular formation, medullar and spinal cord (Wurimhenberg and Buck 1968). Past finding results show that the presence of cold receptors [44] and warm receptors [42] in these regions, convergence temperature [38] which originate from central effectors signals [42] provide ionic reference input to the hypothalamic temperature controller [39].

Again according to the law of thermodynamic, heat will flow between two system if there is thermal gradient between them, initial points of heat contact is by radiation, evaporation and convection on the periphery of the skin with or without clothing, the thermometer within the internal body core or external periphery, the design of the machine parameters and sample collection with aid of automated robot will take into account the conductive characteristic of the thermo receptors, note that past findings has demonstrated the relations between the room ambient temperature and the human body temperature, findings shows that body temperature were altered dramatically by altering climate in an experimental room, [52] demonstrated that multiplicative relation exist between the ambient temperature, preoptic temperature and oxygen consumption [53-63], since past finings have found correlation between body and environmental temperature, presumably manipulation of the special room temperature will be maintained at values deem less dangerous in induced or non induced fever.

Engineering Input

Engineering input entails design and construction of the machine from modelling perspective, heat models, bio heat steady state and non steady state equations, computer software and other input will be automated and integrated with software, usable internal harmless instruments examples oral or rectal thermometer, physiochemical fitted miniature equipments that can take readings, physical changes detectors include (heat capacity, conduction, evaporation and thermodynamic values respectively will form part of the machine, example simple thermodynamic scenario is a universe of two systems, that is, the special hospital room and the body, exchanges occur base on the thermal gradient (TG) between them and within them, this is necessary given that refrigerator and heat source fulfil the requirement of the first law of thermodynamics as does the reserving engine cycles thus from thermodynamic equation,

$$\begin{aligned} \sum dQ + \sum dW &= 0 \\ Q_1 + Q_2 + W &= 0 \\ W + Q &= -Q \end{aligned}$$

For the refrigerator important quantity include heat supply to the system (both room and the body) from surrounding (the machine as heat source and heat pump is the heat ejected from the systems $-Q_2$, W is power input (running cost factor) and base on physical principles W is the power input(running cost factor) also refrigeration and heat pump performance are defined by means of coefficient performance (COP) given by

$$\begin{aligned} COP_{ref} &= \frac{Q_r}{\sum_o W} \quad (1) \\ COP_{hp} &= \frac{Q_z}{\sum_o W} \quad (2) \end{aligned}$$

$$COP_{ref} = \frac{Q_r}{\sum W} \quad (3)$$

Breaking down the equation yields

$$COP_{hp} = \frac{T_1}{T_2 - T_1} \quad (4)$$

$$CO_{hp} = \frac{T_2}{T_2 - T_1} \quad (5)$$

Equation (4) and (5) gives maximum values of temperature of the refrigerants in evaporation and condensation coils, another input required from the engineering field is the performance of the heat pump, it varies with temperature, given the fact that heat loss and heat supply from the building varies linearly with ambient temperature, this balance point is important so that demand for the heat is satisfied, above the point much heat is produced, temperature below the balance points implies that supplementary heat most be added to maintained the internal temperature of the body and the room, expertise of expert in this aspect and many others will be assemble so that refrigerator, the pump or other sources and all equipments, all gadget; thermometer, air moisture, air condition, hygrometer, specific humidity determiner, partial pressure reader, relative humidity detector and such other heat exchanges detectors in physics will be joined to all other components as depicted in the blue print above designed above. It is note contestable that applied thermodynamic drives most engines [64].

Data on Innovated Thermal Diagnostic and Treatment Machines Shows Time Lag in Number of Application

In developing and developed world health and research institution, there is extreme shortage of thermal treatment machines, the existing few ones are mainly restricted to treatment of few ailment, looking perfunctory at designed diagram of machine blueprint , so far there is no comprehensive machine which integrate thermal body heat transfer, environmental heat transfer and real time reading, interpretation and display of result of physioanotobiochemical parameters at same time to boost immune function, example the benefits of the immune boost and hyperthermia per unit time can be recorded, the immune boosting machine will do so in nearest future with adequate funding and research, again as already declared values of results used in SPSS analysis were obtain from simple ingenious comparative permutation and combination of reference values, the economic benefits for technological companies, health institution benefits for care receivers and the fact that it will herald novel way of prolonging life span can never be over-emphasized, government, policy makers, heath care givers need the equipment urgently, for instance the threat of Ebola has global implication and impact on human contacts without which nothing can be done in human engagements, The question of why do people die so fast from the disease need not be beg. In some countries in west Africa, prevalence and incidence of the disease was declared national emergency, future occurrence of other disease types cannot be dismiss, it crucial that the immune boosting machine effort be given adequate support to succeed, the strength of body immunity will translate into good health and prolong life span with high productivity, nowadays that certain so called disease deadly diseases seem not to response to most therapies, presumably for all new emerging ailment

Values of survival or increase in life span in % (estimated base on past finding results) (%)	Number of exposure(ex) per week between 31°C to 34 °C	Temperature duration values per exposure is (1-3°C) For each exposure) (°C)	VBBI est (from physiol values and experiments) unit. immune power(IP)	ISI per every 3 months (M)(est. From physiol values and experiments (M)	Q10(determine from temperature and rate of reaction)	Increase in PARPs values per exposure estimate (base on past finding result)	Values of pyrogens in ml, um etc
10	1	3	20			5	0.001
20	2	6	40	3		10	0.002
30	3	9	60	6	10	15	0.003
40	4	12	80	9	20	20	0.004
50	5	15	100	12	30	25	0.005
60	6	18	120	15	40	30	0.006
70	7	21	140	18	50	35	0.007
80	8	24	180	21	60	40	0.008
90	9	27	200	24	70	45	0.009
100	10	30	220	27	80	50	0.01
110	11	33	240	30	90	55	0.02
120	12	37	260	33	100	60	0.03
130	13	40	280	37	110	65	0.04
140	14	43	300	40	120	70	0.05
150	15	47	320	43	130	75	0.06
	16			47	140		
					150		

Table 2: Show results obtained from mathematical inference and inductions, most values above were arrived at using information and insight supply by standard reference in texts and result of past findings. Analysis of result of past findings on survival values of fever.

in which fever is present, assuming the patient had been expose to the immune boosting machine routinely, they may high survival chances than others who were not exposed , a fact that underpin the need for routine immune boost among all individuals in good health or in bad health with the aid of the immune boosting machine.

Medical Benefits of the Machine

Immune boosting benefits

Generally it will

- Increased the level of immune strength in sick or healthy individuals exposed on regular bases to the machine treatment
- It will increase life span and general physiological, biochemical, anatomical and psychological wellness of the body
- Increase level of strength of immunity types, both acquired and innate immunity
- ensure body resistance against incidence of tumor, infectious disease and non infectious disease in urban and rural areas
- Sustains economic growth and productivity in the event of outbreak of some disease which could affect general levels of economic or even political activities adversely, for instance ebola, cancer, anthrax, SARS, HIV AIDS, for regular exposure(special immunization) beside the therapeutic benefits will strength the immune system prior incidence of the disease or abnormality.
- be used in treatment of certain ailment and at same time boost the immune system
- Ensure effective exploitation of roles of cytokines, interferon, interleukins, tumor necrosis factor and other immune secretions in

vivo, and again in gauge them to determine their effectiveness.

- attenuate effect or growth of pathogens(bacteria, virus, parasites etc)
- ensure use of drugs with narrow therapeutic index, or low dose drugs with high therapeutic index especially when the etiological factor had been attenuated by hyperthermia or immune attack
- be use as a special immunisation medium
- be use in research and clinical applications
- The principles could extended to other medical and non medical machines
- Ensures long time immune function and protection

Hyperthermia treatments Benefits

- It can attenuate pathogens survival, growth and effects
- Also has pathogencidal
- It can be use in treatment of cancer and other disease, it kill cancer cells,
- Ensures use of low dosage after attenuation as mentioned above , research shows that Atazanavir sulphate for HIV treatment depend on CYP3A for clearance of their high plasma levels which cause life threatening events (FDA and MMS et al)
- Hyperthermia favours production of certain vital elements
- Attenuation will also reduce the resistance of the organism to drugs

Estimated values of boosted immunity (VBBI) per unit time per

		N	Correlation	Sig.
Pair 1	Survival values or Life span increase In percentage & Temperature duration Values Per exposure	15	0.999	0
Pair 2	Number per exposure week & Temperature duration values per exposure	15	0.999	0
Pair 3	Survival Values OR Life span increase In percentage & Immune Strength Index	15	1	0
Pair 4	Number of exposure Per week & Q10	15	0.985	0
Pair 5	Immune Strength Index & Q10	15	0.988	0
Pair 6	Values Of Boosted body Immunity & Values of Pyrogens	15	0.879	0
Pair 7	Immune Strength Index & Values of Pyrogens	15	0.887	0

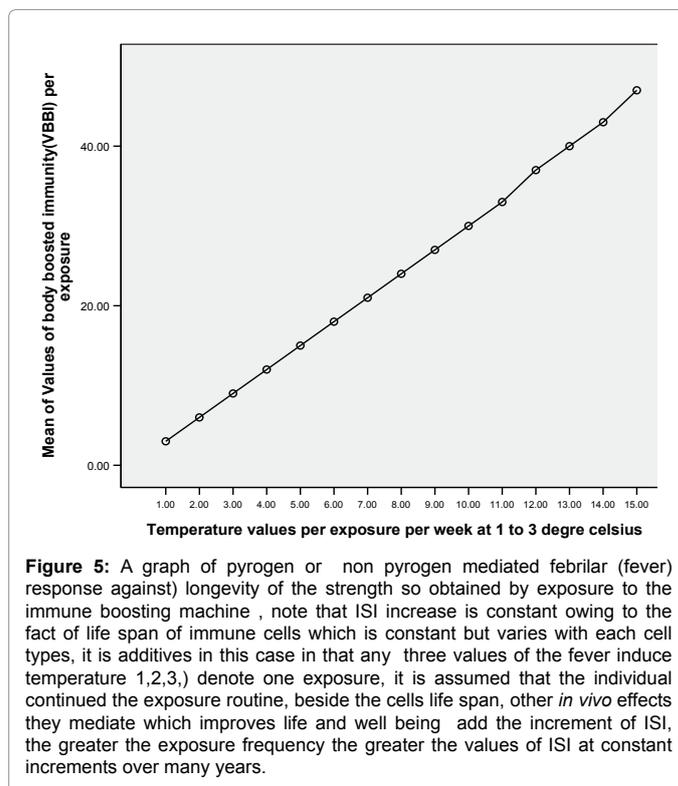
Paired Samples Correlations

Table 3: Show result of paired T test for paired samples correlation Note that each paired samples include dependents and independent variable, dependent variables are temperature duration, value per exposure values of pyrogen use and number of time an individual is expos to the machine, all other variables are dependent. Apparently $P \leq 0.05$.

total surface area of the body determine by gauge indicators in the machine and longevity values of the boosted immunity in months what I called the immune strength index (ISI), note that it is the duration of the immune strength per 3 months estimated from values of all the effected immune cells and all secreted immunomedatory, immune power (IP), EVBI and ISI can be determined from values of all immune cells counts, estimated level of cytokines and chemokines, or any method which quantify the immune entities and secretions, it is not contestable that reference values for physiological ,biochemical and anatomical parameters abounds in most literature, percent of expression gives ISI, EVBI depends on ISI values, the PARPs from pertinent experiments which use quantitative western blot methods to measure PARPs, PARP is factor of longevity, estimate of PARPS was determined by looking at cell numbers instead 5 fold increments in PARPs value per exposure was arrived at, hypothetically Q10 is a quantity without unit, it is determines from change in rate, and is utilised to express biochemical processes which depend temperature for most biological systems, the Q10 value is ~ 2 to 3, which means for every 1 degree rise in body temperature biochemical reaction increase by tenfold It is determine by formula shown below:

$$Q_{10} = \left(\frac{R_2}{R_1} \right)^{10 / (T_2 - T_1)}$$

The standardised reference base and permutatively estimated values in Table 2 were subjected to two statistical analysis; Bivariate correlation using Pearson and Kendal taub method, the statistics also include Mean Standard Deviation, Cross Product Deviation and Covariance, correlation was significant at 0.01 level (2 tailed) for most of the variable used, also the variable were subjected to paired sample T test, again the paired sample test for temperature and estimate of values of boosted body immunity (VBBI) and Immune strength index (ISI) was statistically significant $P \leq 0.00$ (2 tailed), in addition, correlation



sample test shows significance $P \leq 0.00$ (2 tailed) for the respective values above, note other tested are Q10, number of exposure etc. see Table 2, this result no doubt are non deterministic, in subsequent result analysis deterministic (calculus) method will be use in combinatory fashion to know actual values.

Most past finding result show correlation between incidence of fever and survival values, the research material used were mostly mammals and non mammals, interestingly, the consistence of the results in both animal and human subjects seem to add credence to age old assumption that fever has survival values as mentioned, in this review reference physiological values example number of WBC per cu mm and several research results on survival rate were asses from which the values in the Table 2 were determine using maths concepts in novel way which I pointed out earlier, these values were used from statistics standpoints to show consistence and validity of the argument, in as much as reliability of the machines depend on research result validity.

The startling correlation between statistical analysis of death rate and survival values of antipyretic and non antipyretic treated rabbits in Kluger and Vaughn experimental result is welcome developments, in this review two variables from their results show % of survival rate and febrile temperature in relation to Q10 events of typical biochemical reaction, Values of Body Boosted Immunity (VBBI) and longevity values of the boosted immunity in months what I called the Immune Strength Index (ISI), values of Pyrogen, PARPs values were all estimated from novel maths concept, that Q10 are obtain by mathematical manipulation i.e. for every degree rise temperature biochemical reactions rise ten folds (Figures 5-8).

Once again note that some of the values in Table 2 above are mere hypothetical estimates base on valid experimental outcomes by researcher and standard reference values, but in reality either the cells (by counts) of

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Survival values OR Lives span increase in percentage & Temperature Duration Values Per exposure	56.4	31.88551	8.2328	38.7424	74.05761	6.851	14	0
Pair 2	Number Of exposure Per WEEK & Temperature duration values Per exposure	-15.6	8.39047	2.16641	-20.2465	-10.95351	-7.201	14	0
Pair 3	Survival values OR Life span increase in percentage & Immune Strength Index	55.7	30.95496	7.99254	38.5911	72.87562	6.973	14	0
Pair 4	Number of exposure Per week & Q10	-82	54.75921	14.13877	-112.325	-51.67536	-5.8	14	0
Pair 5	Immune Strength Index & Q10	-65.7	45.60305	11.77466	-90.9875	-40.47921	-5.583	14	0
Pair 6	Values of Boosted body Immunity & Values of Pyrogens	160	89.42603	23.0897	110.461	209.50548	6.929	14	0
Pair 7	Immune Strength index &- values of Pyrogens used	24.2	13.75408	3.55129	16.6329	31.86642	6.828	14	0

Table 4: Show result paired sample T test (2 tailed). Variables were paired differently as explained in Table 3 above, note the t values and sig values (2 tailed), both show statistical significance.

the secretion (by recycling immunoaffinity chromatography of various fluid from the body) can be actually determine by research for creation of standard reference, Immune profiling had been done using cervical secretion, values of % of survival or life span increase by fact of immune boost were estimated base on past experimental results, number of exposure thrice per month for 4 hours at 3 degree incremental of 1°C to 3°C (i.e.31°C to 33°C) per exposure, other experiment assay and analysis such as high through put can be carried out for determination of PARPs (western blot method for instance) and also the immune strength, within the limit of small error, the universal concentration of secreted component of the immune system after exposure may be determined, the values of temperature means that for every 1 degree rise in febrile temperature, there is chances of 10% survival rate for a diseases or 10% increase in life expectancy of individuals who have been frequently exposed to the immune boosting machine, in other words for every exposure life expectance or life span is increase by certain percentage, with each successive % per exposure, exposed individual may reach extremes of life span (80 to 125 years), it is not contestable that life expectance or maximum life span is a function of diseases, excluding death resulting from other causes, but most death are due to illness especially in modern era of newest ones (Cancer, HIV AIDS, Diabetes, and host of other infectious and non infectious ones), DNA damage theory of aging may provide glimpse to causes of aging, for most values were derived ingeniously from other values [57,58,60,61] from reference standard values as shown in the listed texts below (Table 4).

I posit that ability of the immune boosting machine to increase the strength of the immune systems and hence life span can be determined by diligent research in which mathematical calculus as well as experimental procedures of monitoring and recording of individual expose per lifetime period. Research shows that element which increase life span are Poly ADP ribose polymerases (PARPs).In fact in one

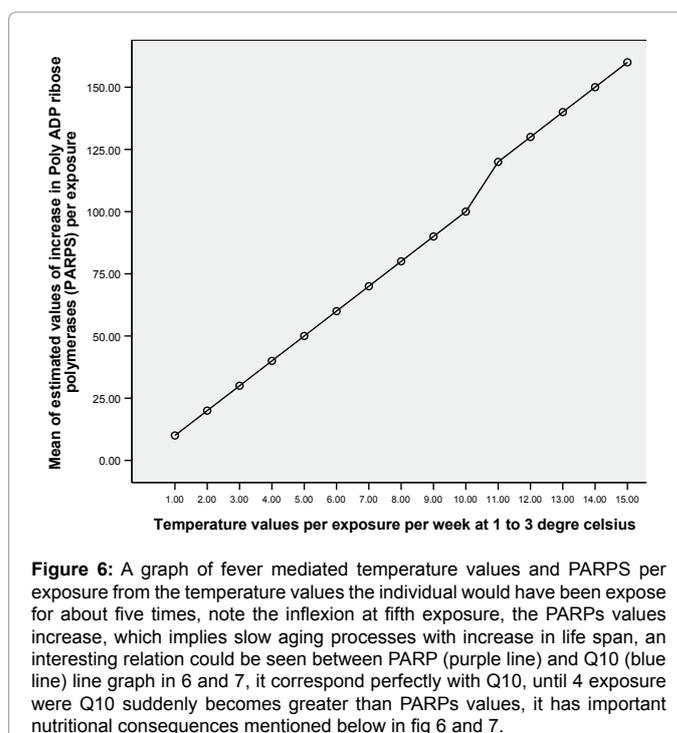


Figure 6: A graph of fever mediated temperature values and PARPs per exposure from the temperature values the individual would have been expose for about five times, note the inflexion at fifth exposure, the PARPs values increase, which implies slow aging processes with increase in life span, an interesting relation could be seen between PARP (purple line) and Q10 (blue line) line graph in 6 and 7, it correspond perfectly with Q10, until 4 exposure were Q10 suddenly becomes greater than PARPs values, it has important nutritional consequences mentioned below in fig 6 and 7.

findings, increase in life span of about 13 mammals was attributed to determine capability of poly(ADP ribosyl)ation action in no other cells but mononuclear cells, it seem poly(ADP ribosyl)ation concentration in lymphoblastiod cell lines increase with age. There is correlation between the immune system and longevity [64-68] had established the

relations between temperature and life span in *E. coli*, according to the finding results the degree of life span extension related age1 (hx 546) and age 2 genes is factor of ambient temperature, 10% extension at 16 degree Celsius and 65% extension at 27%.

Implementation of the Research Proposal a Near Reality

The project proposal is ready, current effort is directed in actual designed, construct and assembling of the machine parts, most finding on the aforementioned benefits were carry out a long time ago, with advancing new fronts in soft ware engineering, and significant others other engineering field related to biomedical fields, new researched would have to done so that experimental results can be compared with heat models, bio thermal mathematically derived equations and calculation in addition computer applications, another fact is the series of success thus far recorded in biomedical fields physiology, molecular biology, immunology, chemistry, biochemistry, the attendant effect is need for a new research protocol and methods of measurement using state of the art equipments, the laudable intends is to construct such kits in a novels manner for accurate measuring of the all parameters, clearly, again financial where withal and expertise of expert from other field is also an important requirement for continuous actions, until then, the final phase of the immune boosting machine, life span enhancing capabilities remains in abstract extraction in reality.

Financial Cost and other Technical Issues

Looking at the project comprehensively, each aspect will need intensive research which utilise new protocols, new experimental designed, new assay for cytokines, indeed measurement and assay methods for universalize body studies are very expensive, we assumed that collaborative effort may provide the need for research platform, collaborative effort may kick start the project, past finding have shown instances were such collaboration , yield rewarding outcome regarding technical issues and finance [32], need for various parameters implies that knowledge base of other field will be required, for creation of most machine has been done successfully by collaborative effort [32], the immune boosting machine would not be an exception, finding shows that shift in paradigm had occurred in manufacturing of ultra modern equipments, manually build machines are replaced by automated ones[33] example ECG recoding machine found in most health institutions, it is important to note that various modification would have to be done base on outcome of fresh high quality research pertinent to functions of each components, the overall objective of the machine which in all ramification entails immune boost and hyperthermia treatments will change pattern of current global immunisation.

Most machine designed used software [34], consequently I anticipate less hurdles in these regard, additionally prototypes created by careful research and effective functionality through diligent simulation of the prototypes is well recorded, [34] the challenges here is fitting together of the kits and in more efficient manner, novel computer packages such as auto card drawing implies ease of design nowadays.

Roles of Automated Software

Automation of machine had been reported by past findings [34], in addition most of the factory base machine actually use robotic technologies, however medical machines, besides automation, most time do not have robotic tech, were it not for recent ones [35], considering the huge task of the machine, high precision, and huge number of data which will depend on accuracy of measurement in automated and robotically designed gadgets must be carve out from global pool of

knowledge, past findings shows that robotic and automation are sine quonone of precision in construction of machines [35] automobile and other equipments where minor errors could make the machine redundant, it is noteworthy that speedy of accurate execution of task accounts for use of most robotic or automatic complex integrated machines [36], infrequent use is due to cost implication, but given the role of the immune boosting machine it is a worthwhile venture, thus reliable, accurate, readily availability of measured and interpreted data, interpretation and algorithmic comparative analysis of physiologic, anatomical, biochemical, pharmacological, and thermal data as well as their display vis a vis the micro climatic room variables would be ensured, research also show the wide use of soft wares in machines use in clinical settings, the ability of the some software to synthesize result from continuum of body action had been demonstrated [37], as for the body and the machine, there will be assiduous recording of mechanical and systemic variables of important continuum of immune cells roles and their records in order to gauge the strength(VBBI, and ISI) of the immune system and functional ability of the machine at any given

Potential Problems and Solutions

Immune responses may be detrimental at time in some few individuals, allergic reactions, hypersensitivity(type I or anaphylactic reaction, type II or cytotoxic reaction, type III or antibody mediated reaction, type IV or cell mediated reaction, type V or stimulatory/ block reaction) may be dangerous for asthmatics or patient with related medical condition, drug use, real time reading and monitoring of data to ensure adequate level of exposure and simultaneous prevention of adverse effects such as vasodilation, obstruction of airways, difficulty in breathing and shock in type I, Autoimmunes diseases in type II, arthritis, myocarditis and glomerulonephritis in type III, delay reaction due to pathogenic reaction of type IV, Graves disease and myasthenia graves of type V(Sembulingam and sembulingam 2010) will be managed by readjustment, administration of medicines in extreme cases, in addition, fatal effects of temperature extremes and it physiological effects may lead to coma or death, precision, and necessary accuracy will be ensured by automation, robotic use ,and use of software in integrated manner will ensures proper adjustment of variables so that adequate immune boosting values which prolong life span are attained.

To allowed for application of hypothalamic thermostat values as read or interpreted by data interpreter from variously attached lab test kits deem highly beneficial, research shows that in patient with acute brain injury and stroke, insults such as break down of blood brain barrier, release of neurotransmitter and other idiopathic event cause uncontrollable hyperthermia, for example, recent findings suggest the use of cooling method in instance where use of antipyretic proves ineffective [55], yet again I posit that it will make therapeutic sense to employ the immune boosting machines apparatus in quenching negative effects of high temperature while utilising the benefits at same time. Some findings recommend the need for novel research agenda into stroke/ brain injury mediated febrile response, which the machine is capable of doing in a clinical setting [55], ably, also, the machine ability to do control, treat and boost the immune system is admissible sacrosanct as far as milieu interieur is concerned and lastly the effect of fever on life expectancy may not be apparent given the long term cumulative of morbidity and death, which weren't sudden, but I argue that accurate follow up investigation may prove otherwise, the subtle nature of adverse effect of treating rather harnessing effects of fever had been demonstrated by kluger et al 1996, and host of other experimenter, their work and my term paper topics which was decided before I saw their work form the bases of the evolution of the novel machine.

Conclusion, Future Outlook and Reference

Conclusion

It can be concluded that fever in spite it numerous benefits not necessary in infectious disease but most ailments associated with hyperthermia had been over-looked; immune boost, special immunisation, and treatment and prolonged life span are benefits which accrue from fever no doubt, thus it is imperative to ensure that immune strength is maintained on regular bases for futuristic protection, the results of estimated values use in SPSS analysis are ably consistence with result of past finding also statistically $P \leq 0.05$ for all results, the fatal effects of high temperature will be kept in check by accuaret measurement of internal body mileu by the kit in a way readable by the softwares, this will elimante the fatal effects, febril responses are associated with many ailments, it has evolutionary significance, it present an avenues for the body to increase it immune strength, the

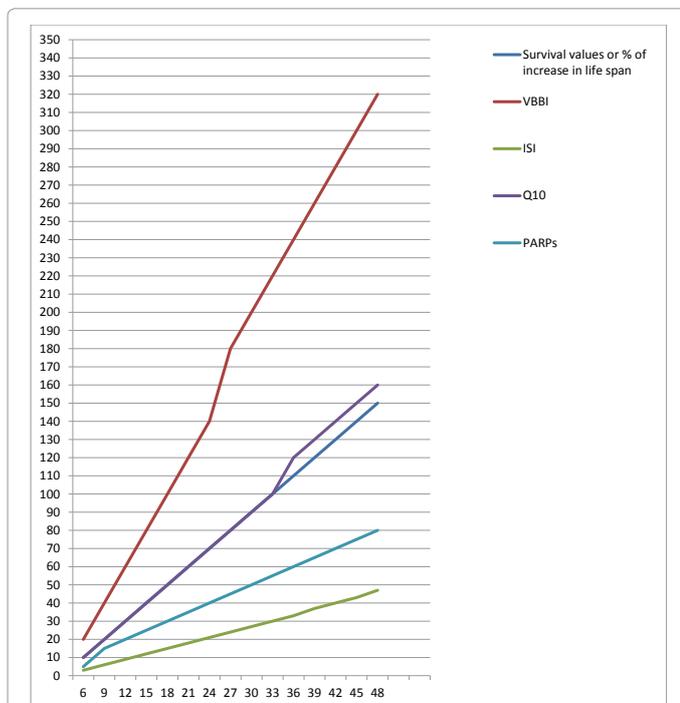


Figure 7: A plot of dependent variables on Y axis against independent variable incremental values of temperature (1, 2, 3 degrees) per exposure on X axis, see the key on the graph, note all values show increase with fever induced temperature as determine from SPSS plots above, in this case an interesting relation exist between Q10 and % increase in survival values, it has nutritional consequence, meaning that at increase in metabolism correspond with survival values (perhaps the heat output benefits) initially, but at certain point on the graph where the purple line diverge from the blue line metabolism exceeds all values except VBBI, Q10 need be decrease, for it implies that aging is increasing faster that % increase in survival value (suggestion: reduction in caloric intake, finding like it to accelerated metabolism), in all instances the purple line must be below the blue lines, greater Q10 may be due to stress or other factors which lower VBBI, ISI and IP, as a proof note that PARPs (the green line) decrease further from that point were purple and blue line divert from each other. Bottom line is reduce calories intake, increase exposure so as to increase VBBI and hence survival value, on broader picture the results show consistence with proven fact that fever induced temperature increase survival values (can also increase life span). For emphases sake non expose individuals need seriously reduce their caloric intake, for if this scenario plays out for exposed individual how much more of unexposed, thus better be exposed to the immune boosting machine than never with decrease caloric intake. It is even better for those who can't reduce their caloric intake.

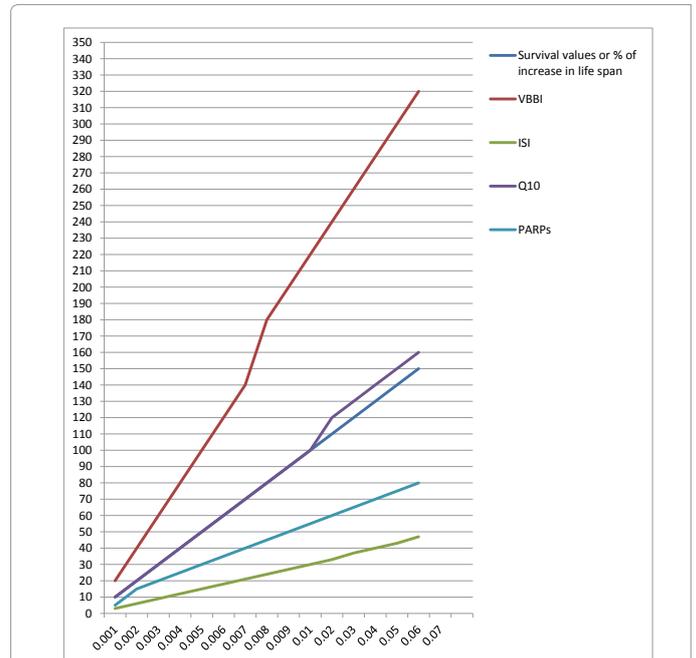


Figure 8: A graph of values of pyrogen used on exposed individual and values of dependent variables, see key on the graph, the graph follows similar trend with figure 6 explained above. Most past finding result show correlation between incidence of fever and survival values, the research material used were mostly mammals and non ammals, interestingly, the consistence of the results in both animal and human subjects seem to add credence to age old assumption that fever has survival values as mentioned, in this review reference physiological values example number of WBC per cu mm and several research results on survival rate were asses from which the values in the Table 2 were determine using maths concepts in novel way which I pointed out earlier, these values were used from statistics standpoints to show consistence and validity of the argument, in as much as reliability of the machines depend on research result validity.

machine has many benefits; it can be use as vaccine, can also increase life expectance or life span per se.

Future Outlook

The immune system boosting machine will redefine method of immunisation, the need for immunisation especially for those expose on regular bases, it will also increase life span (80 to 125 years) herald structural adjustment in job policy by policy makers in terms of economic implications owing to increase in life span.

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