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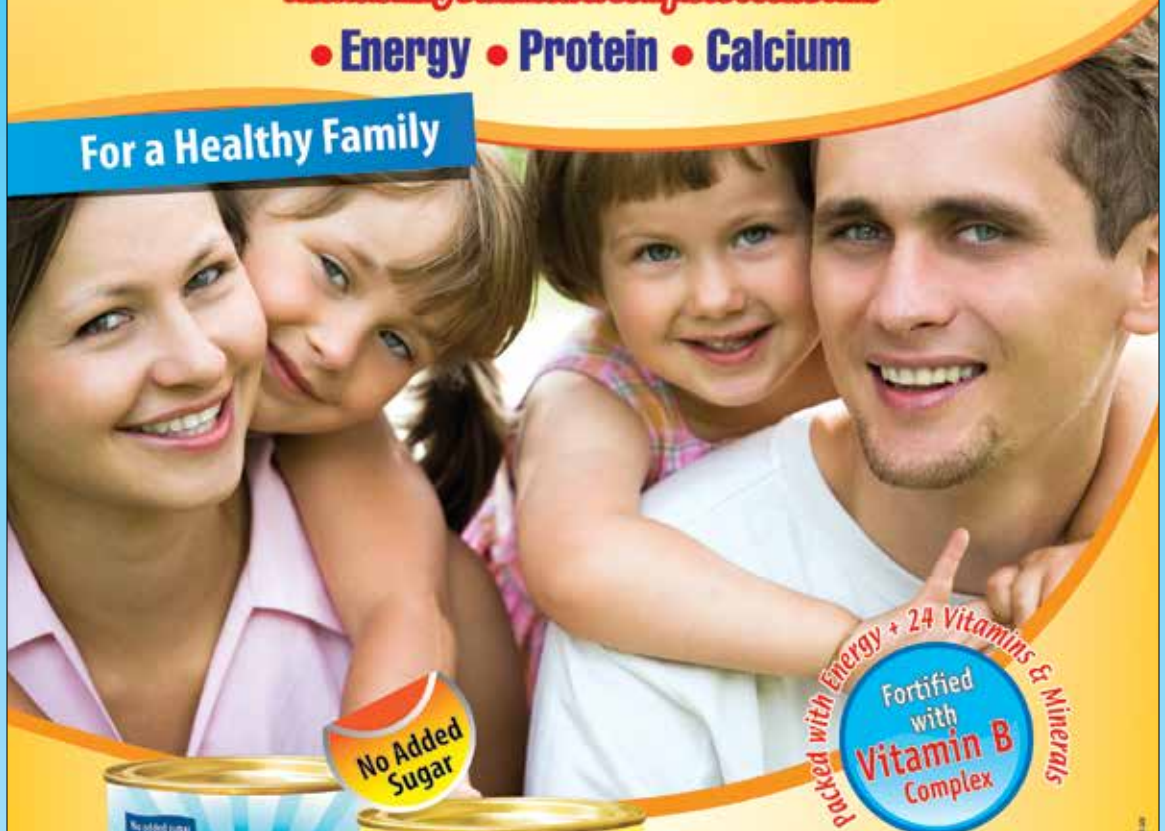

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President's Message

It is with great pleasure I take this opportunity to be able to express my sincere appreciation to the IMPA in publishing the 2015 Journal (Volume - 8) after a lapse of a few years.

I hope the IMPA would be able to publish this journal regularly on a yearly basis, as was contemplated when the first edition/volume was launched.

The IMPA Journal supports our members to receive and express their opinion on several topics of significance, specially in the field of medicine.

I wish to thank the editor Prof. I. Joel Fernando along with the editorial board members for having devoted a lot of their time and effort in compiling this Journal.

I wish to thank all those who have submitted articles for this Journal. I also wish to thank our Administration Officer Mrs. Champa Silva for her untiring efforts in coordinating all the work required in producing this Journal.

I appreciate the efforts of the printer AK2 PRO for obliging us always in producing this Journal par excellence.

Finally, I thank the sponsors and advertisers for all the support and assistance provided to publish this Journal and hope the IMPA will progress to greater heights in the future.

Dr. A.H.A. Hazari

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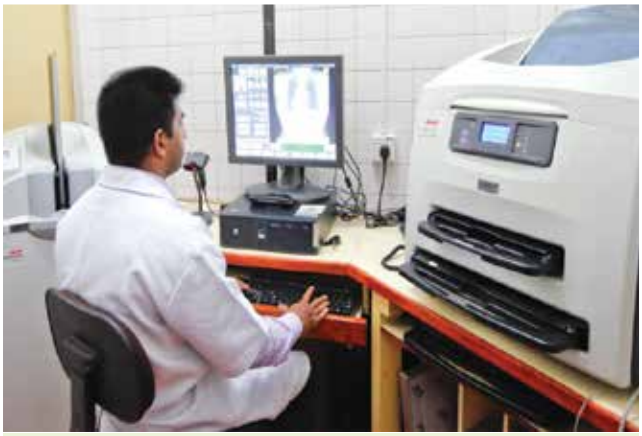

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Editorial

IMPA journal is published after a lapse of many years. Our members response to the call for journal articles was encouraging. The editorial board was compelled to select authors and articles for this journal from the many received. The board formulated a set of criteria and selected ten articles for this issue of the journal. We invite our members and other interested professionals to continue sending articles for publication in the IMPA journal.

The future directions our journal could take need to evolve from what our members want. Do we want it to be yet another traditional peer reviewed medical journal or a journal meant for a wider professional audience or even a nonprofessional audience .Your views are welcome.

When considering what direction we should take it will be useful to reflect on the five guiding principles of state policy for health (1)

1. Respect for the dignity of the user/patient in all health care settings
2. Recognition of the right of people to be involved in planning, implementing and evaluating all health and health related activities
3. Assurance that the health services of desirable quality are equitable and easily accessible and available free of cost to the needy
4. Assurance that health resources are optimally utilized
5. Recognition that health and other sectoral developments are mutually interdependent and, therefore, that various sectors function in a coordinated way to ensure health development

As medical professionals we play major role in providing health care. Should we restrict our learning and communicating to ourselves or share it with our patients and the community ?

(1) Report of the Presidential Task Force on Formulation of a National Health Policy for Sri Lanka 1992

Prof. I. Joel Fernando

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A Historical Perspective of the Independent Medical Practitioners Association of Sri Lanka

Prof. Dennis J. Aloysius & Prof. I. Joel Fernando

The Independent Medical Practitioners Association (IMPA) of Sri Lanka is the oldest national organization of general practitioners in the whole world. It was established in 1929. The national organizations of general practitioners in other parts of the world were established only after World War II. The United States of America was second in the field in 1947, the United Kingdom followed in 1952 and several other countries thereafter. The IMPA is a medico-political body, with academic general practice as a subsidiary interest, while the other national organizations established elsewhere, were mainly academic bodies.

As an act of faith in academic general practice, the College of General Practitioners was created by the IMPA in the early seventies. This was subsequently incorporated by Parliament in 1974 and began to function independently of the IMPA.

The main objectives of the IMPA over the years, have been to:

1. Safeguard and further the interests and status of its members as a body.
2. Discuss medical topics relating to the welfare of the community at large.
3. Promote and encourage corporation and loyalty among members in the best interests of the profession.
4. Further scientific knowledge and maintain professional and ethical standards.
5. Provide and promote social amenities for its members.

In 2004 the IMPA celebrated its 75th anniversary. An anniversary of the IMPA is a time to dust the pages of history. It provides an opportunity to obtain a useful measure of the enduring significance of persons and events that shaped its history. We share Thomas Carlyle's view that "history is the essence of innumerable biographies". Though many of the members of the IMPA have made a significant contribution to its development over the years, the inspired presidents of the past and a single secretary are the persons who actually gave this organization direction, purpose and guidance.

Past Presidents and some Historical Landmarks of the IMPA

Dr. E.V. Ratnam (1929 to 1950) - Founder President
Sir Frank Gunasekera (1950 to 1951)
Dr. M.C.M. Kaleel (1952 to 1963)
Dr. A.D.P.A. Wijegoonewardene (1963 to 1968)
Dr. A.M. Fernando (1969 to 1970)
Dr. R.P. Wijeratne(1970 to 1971)
Dr. M.P.M. Cooray (1971 to 1975)
Dr. B. D. J. de Silva (1976-1978)
Dr. Hector Jayalath (1978-1979)
Dr. M.S.M. Refai (1980-1981)
Dr. Peter Kannangara (1982-1988)

During his period a permanent Home was obtained for the IMPA Office in June 1982, which is the present site by leasing a room in the Building Complex of the OPA.

Dr. Bernard de Zoysa (1989 -1991)
During his Presidency the following activities took place:

A weekly health column was published in the press. The issue of identity cards to IMPA members which proved useful in times of civil strife. The issuing, for the first time of IMPA,

Membership Certificates, Health Manpower deliberations, organizing fund raising with plays such as "Hunuwateya Katava". Dr. de Zoysa refurbished the IMPA Headquarters and gave it a new look. He also recruited and trained Champa Nishanti to the IMPA Office in 1989 and she still continues there providing yeoman service.

Dr. L.L. Weerasena (1992-1993)
He began Free Health Camps in Rural Sri Lanka on 15th December 1991, at the Captain Seneviratne Hall, Mahiyangana. The100th Free Health Camp was held in December 2001 in memory of his late father in his home town Devinuwara with fifty two doctors including thirty specialists, attending on six thousand five hundred patients. The 164th Free Health Camp was held in Dehiyattakandiya on 22nd October 2004. At each of these Free Health Camps patients who needed follow up are given referral letters to the nearby State Health Facilities, patients with suspected malignancies are referred to Maharagama Cancer Hospital and followed up, several associated Service Organizations have donated reading glasses, Jaipur Limbs, wheel chairs, crutches and hearing aids. The very poor patients referred for specialized treatment to Colombo and Kandy were also given financial support by the service organizations. As the IMPA President he held a fund raising Variety Show with free participation of Sri Lanka's famous Artists and formed a special IMPA Health Camp Fund. During his tenure of office Dr. Weerasena obtained the NGO status for the IMPA.

Dr. S.R. Ratnapala (1993 - 1995)
During his tenure of office the following were achieved.

The IMPA was incorporated under the Companies Act by the Registrar of Companies. The IMPA Newsletter was published in a new format which is being currently continued.

The distance learning programmes on AIDs and STD were produced, the first of its kind in Sri Lanka for continuing professional development of general practitioners.

A new regional branch was established at Kalutara and the other branches at Galle, Matara and Kandy were activated.

Dr. A.D.V. Premaratne (1996 -1998)
He took charge of the Distance Learning Programme on Reproductive Health which was funded by the UNFPA. With the profits of this he upgraded the IMPA Office providing it with its first computer, new furniture etc. He also actively continued the monthly CME Programmes and the Free Health Camps.

Dr. B.G.D. Bujawansa (1999 - 2000)
When he was President of the IMPA in 1999 and 2000, he took up the issue of selling unregistered date expired drugs with the Drug Regulatory Authority, felicitated members who had completed 50 years of practice, staged "Maname" as a fund raiser for the IMPA.

Dr. S.L.G. Jayasuriya (2001- 2004) & (2008 - 2011)
He has been responsible for conducting all its CME programmes, personally organizing CME meetings for IMPA members. The update programmes are published in the newsletter and posted to all the members of the IMPA.

He is also the President and Project Coordinator for 2 internationally funded projects of the GFATM for Tuberculosis and Malaria to educate selected groups of GP's and the UNFPA funded STD and HIV/AIDS project. From savings obtained from these Special Projects, the IMPA has made material improvements to the office to the value of Rs. 300,000/- .

Dr. W.A. Ferdinand (2005 - 2008)
The G.F.A.T.M projects for Tuberculosis and Malaria were carried out successfully in different parts of the country. Groups of GPs in these areas were thus updated on these subjects.

The IMPA constitution was revised bringing in new important clauses.

A serious attempt was made to eliminate "Quacks". Many lessons were learnt in the process. The Medical Council was powerless to help. The police were unable to identify Registration Certificates. Ayurveda and Homeopathy had not established their Councils.

Guidelines for minimum requirements for registration of Private Medical Practitioners with the Private Medical institutions regulatory body (Act No.21 of 2006), was drawn up and submitted to the P.H.S.R.C by the IMPA council.

Honorary Secretaries

The first honorary secretary of the IMPA was Dr. J.F. Jabir and he was succeeded by Dr. Kaleel. The other secretaries over the years have been Drs. K.RT. Peiris, Guy Paranavitana, R.P.Wijeatne, Lucien Gunasekara, Rex de Costa, RJ.D. Peiris, Mohideen Hassan, M. Nilar, K. Somasunderam, G.M. Heennilame, D.H.P.R. Senanayake, RM.L. Fernando, Dennis J. Aloysius, I.J. Fernando, A.H. Hazari (Sr), S.A. Karunanayake, S.R. Ratnapala, Lakshman Weerasena and A.D.V. Premaratne, B.G.D. Bujawansa, W.O.Wadugodapitiva,. K.P. Piyasena, A.L.P. de S. Seneviratne, Hamza Sulaiman, D. Atukorale, A.H.A. Hazari, S.W. Samaranayake, S.A.P. Gnanissara, N.K. Ashubodha, C.D. Pathinayake, D.P.L.C. Namaratne, M.S.A. Ameer, Jayantha Jayatissa, D.N. Fernando.

In the history of the IMPA there was one very active secretary namely Dr. G.M. Heennilame who held office from 1959 for 19 long years.

Treasurers

In the early period of the IMPA the secretaries of the IMPA also used to function as treasurers. From the minute books we could gather the following were treasurers holding separate office Drs. M.C.M. Kaleel, R.P.Wijeratne, Lucien Gunasekera, Kumaran Ratnam, T. Nagendra (19 years), P. Motha, K. Jayasekera, Bernard de Zoysa, M.J.P. Goonetilleke, L.P.V.E Jayaweera, T.PJ. Amath and H.L. Pathirajamudali.

Branches of the IMPA

For nearly 5 decades of its existence the IMPA was based in Colombo. The need to spread its activities islandwide to cater to the general practitioners outside Colombo was raised at several early meetings of the IMPA. It was only in1977 that the first branch of the IMPA was established in Matara. Kandy followed in 1978 but this branch has been inactive. In 1981 Chilaw/Puttalam branch was inaugurated. It later become the most active of all the branches of the IMPA, having renamed itself as the North Western branch. In 1982 the Jaffna branch was inaugurated. This branch too has been relatively inactive.

The crest

The crest of the IMPA was designed by Dr. Sriyan Goonewardene, son of Dr. Louis Goonewardene.

Headquarters of the IMPA

The IMPA had no permanent office for the greater part of its existence. The office was usually the home or the practice location of the incumbent president, till Dr. Heennilame took over as Secretary. The offices after that period were at the following situations:

1. 162, Deans Road, Colombo 10 for nearly two decades. This is Dr. Heennilame's dispensary premises.
2. Dr. R.P. Wijeratne's Dispensary at 106, Piyadasa Sirisena Mawatha, This was used as a temporary abode during the move from Dr. Heennilame's dispensary to the Drug Centre,
3. 62, Galle Road, Dehiwala, the IMPA Drug Centre.

In 1977 the IMPA having paid Rs. 40,000 to the OPA, it obtained 400 sq. ft. of office space in the OPA Professional Centre at Bauddhaloka Mawatha (now Prof Stanley

Wijesundera Mawatha) and this serves as the IMPA office today.

Publications of the IMPA

The first newsletter of the IMPA was published in 1969. This was followed by the second in 1970, thereafter were no publications until two newsletters were published in February and October 1974. Dr. Heennilame edited these first four newsletters.

In 1976 State Pharmaceutical Corporation (SPC) sponsored the IMPA newsletter and the newsletter was converted into the Sri Lankan Family Practitioner.

The editors of the IMPA have been Drs. G.M. Heennilame, Dennis J. Aloysius, Hubert M. Aloysius, I.J. Fernando, S.A. Karunayake, A.LP. de S. Seneviratne, S.W. Samaranayake, T.PJ. Amath, S.A.P. Gnanissara, S.M. Goonesekera and Dr. N. K. Ashubodha.

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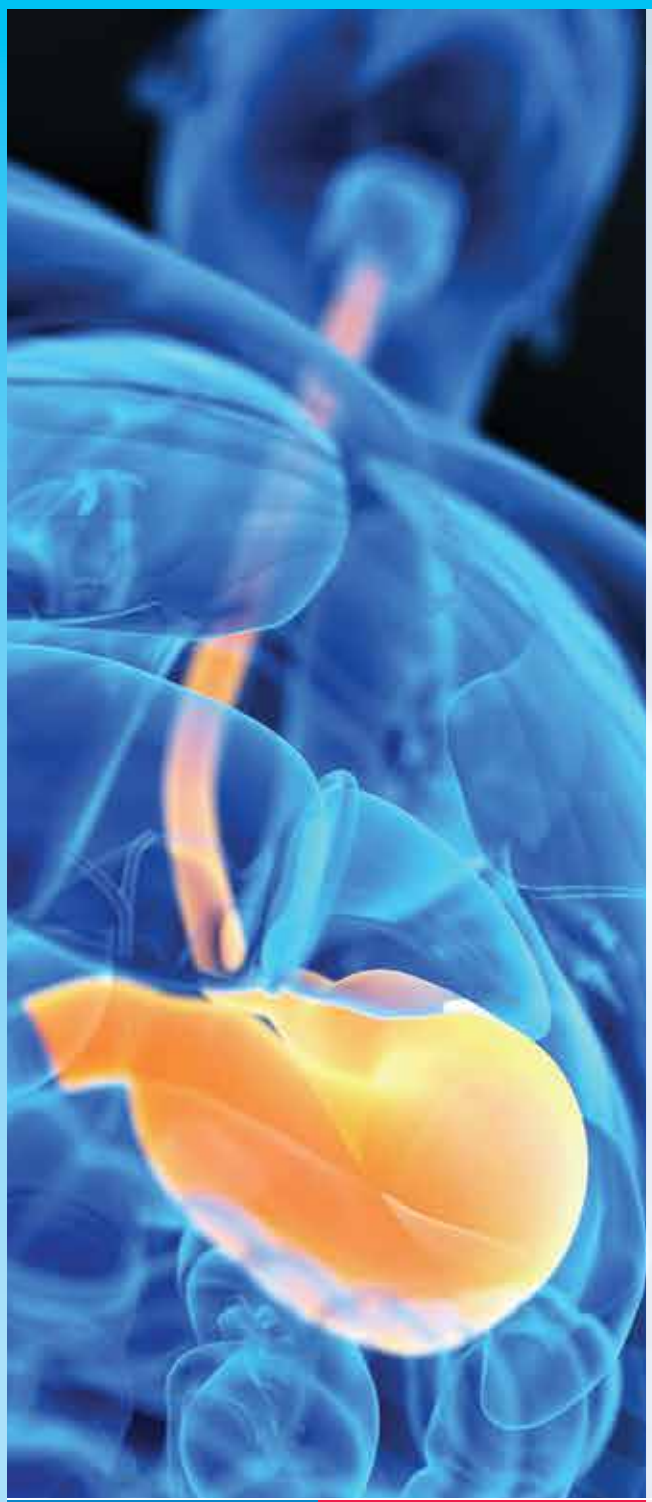

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Changing Work Background of the Family Doctor

Dr. B.G.D. Bujawansa

During my nearly four decades in family practice there were many developments in the health care system and the discipline of Family Medicine. Some of the changes had a positive effect and some a negative effect on the "job satisfaction" of the family doctor. When I entered the discipline of Family Medicine in 1976 the discipline was known as "private practice" or simply "PP" and those who engaged in it were known as private practitioners. On the advice of a senior colleague I joined the Independent Medical Practitioners Association in 1977. The first time I attended a meeting was as late as 1987, when I started my practice in Dehiwala after handing over my practice in Ambalangoda to a senior Colleague. There were no opportunities for the "private practitioner" to qualify further or to improve his skills. Taking part in research or teaching was an absolute impossibility. Some "private practitioners 'were enthusiastic enough to sit for the Diploma in Child Health. College of General Practitioners and Post Graduate Institute of Medicine were nonexistent. The average 'private practitioner" was an isolated, miserable person. The private practitioner gradually evolved to be a family physician. The independent Medical Practitioners Association played a pivotal role to achieve this transition. There is lot more to be achieved and we have to be active.

Things have changed for the better and for the worse. The activities of Independent Medical Practitioners Association (IMPA) and College of General Practitioners, the brain child of the IMPA were mainly responsible for the change for better. Medical politics, changes in socio economic structure of the country, changes of attitudes of people, practitioners of other disciplines of medicine towards Family Medicine were responsible for changes for worse. Our interactions with health administrators, politicians, community and practitioners of other disciplines of medicine are important.

Three to four decades back though family medicine was not a well recognised discipline medical consultants and family doctors had a cordial relationship. Patients referred for specialised treatment almost always came back with a letter from the consultant. There was a surgeon who used to send a post card moment he sees the referred patient. This was in addition to the letter he used to send through the patient when discharging from the hospital. Some consultants used to ring up and update the GP on the developments regarding the referred patient. Mobile phones were not available during this period. In the present day it is an exception for a patient to come back with a consultant's letter. My personal experience is the few consultants who send a note referring the patient back mostly happen to be clinical teachers of medical schools. The feedback I have got from some of the patients is that the consultant did not read the letter of referral at all. Some consultants have made rude remarks when the letter of referral was produced. For this kind of lack of etiquette and discourtesy to develop within a learned profession there are multiple reasons. It creates unpleasantness and an unhappy work environment. We must discover as to what we have contributed to create this situation and take remedial measures at our end. One method would be to write proper referral letters. Personally, I write

properly addressed letters with qualifications and designation of the consultant specified. It will be enclosed in a properly addressed white envelope. Medical students should be taught the importance of communication within the profession, courtesy towards the colleagues and etiquette.

Three decades back CME activities were rare. They were organized by joint efforts of hospital consultants, medical officers and GPs, particularly in outstations. Pharmaceutical industry seldom was called in and funds were from a "hat collection". There was no members' list. Any doctor around was a member. A President, Secretary and a Treasurer were existent. The medical community was closely knit. Nowadays we attend academic sessions, memorial orations and updates but impact is less than in those impromptu clinical meetings of those days. In the present day the sponsoring pharmaceutical companies even have influence on the agenda of the proceedings.

In 1970s there were only about four visits by pharmaceutical detail men for a month. Recently I had eighteen pharmaceutical detail men seeing me in a single morning! The detail men of early days were well mannered civilized gentlemen. This trend has slowly changed with time. The pharmaceutical companies work through the detail men to impose unethical methods of promoting the products. Perhaps fierce competition among drug companies plays a part in developing this unsatisfactory situation. Three decades back the media never alleged that doctors get favours from the pharmaceutical industry.

A bigger proportion of patients used to regard the GP as the first choice to seek advice in health problems. This trend is now changing and at least in urban areas patients tend to go to channeling centers as the first choice to seek advice when sick. One reason for this may be scarcity of full time GPs. Very frequently they go to the wrong specialist.

Availability of investigation facilities was less. Doctors used to examine their patients well and make fairly accurate clinical diagnoses. Investigation facilities are now abundant and doctors depend a lot on reports of investigations for diagnosis. Some laboratories offer "kick backs" to doctors and irrelevant investigations are carried out. Quality of care becomes questionable when irrelevant investigations are ordered. In early days the visit to the doctor was more "cost effective". The doctors too were getting more satisfaction out of their work. In the present day work satisfaction is being replaced by desire of monetary gain. Some GPs invest in laboratory equipment, ECG and radiological facilities. One has to see that only relevant investigations are ordered and should not start simply marketing the facilities available.

Four decades back family medicine had no official recognition. Advent of the College of General Practitioners and Diploma in Family Medicine offered family medicine due recognition. But still our position in the health care machinery is not clear. In developed countries the GP has a well recognized place in the health care system. In the United Kingdom the GP has a very important position in the National Health Service. There is no official machinery for the hospital doctors to communicate with family doctors. Though the Private Health Services Council came into existence and it was made mandatory for the Family Practices to be registered in it since 2007, we gained nothing. In fact we have been annually losing Rs 10,000/= as registration fee. We did not receive any benefit out of this exercise. At least we must see relevant changes in the health care policy, like change in immunization regime or management of dengue fever. This is an area the Independent Medical Practitioners association should lobby for. We also should act in a responsible manner by actions like providing data about notifiable diseases.

The working environment of the GP has

changed during the last four decades sometimes for the better and sometimes for the worse. Some changes for the worse have been inevitable. The Independent Medical Practitioners Association and its brain child, the College of General Practitioners of Sri Lanka, should keep on working to improve the working conditions of the GPs and to achieve better recognition. Both these bodies should realize that though all family doctors are in primary care all primary care doctors are not practicing family medicine. However looking back at last four decades I do not feel unhappy.

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Carica papaya leaf extract in Dengue fever

Dr. Sanath Hettige

Dengue fever is endemic in more than 100 countries around the world (1). Two hundred forty six to five hundred twenty eight million people are exposed to dengue fever each year (2). No specific treatment or vaccination is currently available for dengue fever and patients are managed symptomatically.

The author discovered way back in 2008 that, papaya leaf juice is helpful in the treatment of dengue fever, for the extract augmented the lowered platelet count, the white blood cell count and a speedy recovery. This discovery was published in the Journal of Sri Lanka family physician, 2008, 29, 17-19 (3). This study is the first ever scientific biomedical study conducted to discover the salutary effects of Carica Papaya leaf extract in patients suffering from dengue fever reported in the world literature. This study and details about subsequent observational studies by the author were published in the British Medical Journal online (4). This discovery was given a wide publicity in the local and international media including the Cable News Network (CNN) (5). Many people in Sri Lanka and abroad are now using this simple herbal remedy when they are down with dengue fever and claimed to be effective, as evident in a number of articles via Google search under "dengue papaya leaf". After this discovery, research had been conducted locally and internationally to ascertain the effectiveness of papaya leaf extract in dengue fever (6,7,8,9,10,11,12,13,14,15). All these research investigations revealed the beneficial effects of Carica papaya leaf extract in ameliorating dengue fever.

These include the following:

1. Stimulation of the hematopoietic system which stimulates Platelet production, White Blood Cell production and Red Blood Cell production (3,4,7,8,13).
2. Speedy recovery with reduced hospitalization (3,13).
3. In-vitro erythrocyte membrane stabilization properties (11,12).
4. Stimulates the immune system which enhances the activity against the viral infections (10).
5. Direct anti-viral activity on dengue virus (9).
6. Animal studies have shown that it prevents chemically induced capillary leakage in Mice (14).
7. Toxicology studies ruled out any significant toxic effects even at higher doses (15).

An open labelled randomised case control clinical trial done in Malaysia, in 2013 confirmed that papaya leaf juice helps in the treatment of dengue fever by rapidly elevating platelet counts in both Dengue fever (DF) and Dengue Hemorrhagic fever (DHF) patients. Researchers concluded that it's safe and it may play a valuable role in the management of dengue fever in the near future (8). The Malaysian Health Ministry now officially recommends the use of carica papaya leaf extracts in Dengue fever Patients and is in the process of manufacturing Papaya leaf capsules and tablets (16). Institute of Medical Research Malaysia (IMR) displays a video on how to prepare papaya leaf extract for dengue fever patients (17). Health authorities in India and Pakistan are also recommending the use of this treatment judged by the number of leading paper articles (18,19). A

leading Indian drug manufacturing company has also manufactured a papaya leaf extract pill, which is undergoing stage IV evaluation studies (20). Preliminarily results of the recent open labelled randomized controlled clinical trial conducted by the author at Kalubowila teaching hospital as the principal investigator has shown positive results far beyond the simple elevation of platelet counts (21,22). The results of this research will be published soon.The author was granted patent rights to manufacture syrups, tablets and capsules from the papaya leaf extract in 2010 for patients with dengue fever and other relevant diseases with proven benefits and now is the process of manufacturing papaya leaf capsules (23).

The author was involved in many research and observations from 2008 and also based on the numerous studies done on this subject, strongly feels that early treatment with Carica papaya leaf extract after detection of NS1 antigen will definitely be beneficial to the patient as a treatment given concurrently with the usual dengue management. The treatment should be continued until the patient has recovered from the illness and should not be stopped half way. Researchers have not reported isolated elevation of platelet counts without improving the other clinical parameters. The benefits go far beyond the simple elevation of platelet counts, which is proven in the research mentioned above (6,7,8,9,10,11,12,13,14,15).

The papaya leaf extract was prepared by the author in the following manner to be used in his research studies.

Papaya Leaves Juice Extract Preperation - Protocol

Selection of leaf

1. Mature leaf from a fruit bearing Carica papaya tree.
2. The angle of the leaf stalk with the stem should be between 60 to 90 degrees.
3. The leaf should not be wrinkled due to dehydration.
4. Leaf should be healthy (free of disease).
5. Whole leaf should be green in color with no yellowing.
6. Preparation should be made within 6 hours of removing the leaf from the tree.

Method of preparation

All the necessary equipments should be cleaned and sterilized before starting the procedure. Workers should be in well cleaned uniforms with gloves and masks.

1. Wash the leaves thoroughly, more than five times with running tap water
2. Remove the main stems of the leaves using a scissor
3. Wash the leaves once again with running tap water
4. Weigh the amount of the leaves - 100g
5. Cut the leaves in to pieces and wash it well with boiled cool water
6. Chop into even smaller pieces
7. Grind the pieces with 50mL boiled cold water and 50g of sugar little by little and grind well for about 15minutes till a uniform pulp is formed
8. Place the pulp in to the juice extractor and squeeze it till you get the pure papaya extract (cotton sieve should not be used as it acts as a filter. You can use washed hands to take the juice out if you don't have an extractor)
9. Measure the amount of the juice you get - 100ml
10. Add 20ml of juice extract each in to sterilized bottles and seal it by capping
11. Store refrigerated (+4 C^{o})
12. This preparation should be used within 24 hours

The above preparation has been given 20ml twice daily for adults until the patient had fully recovered from the illness. Subjects were given few sips of cold water to overcome the bitter taste of the extract. Reviewing the literature reveals that papaya leaf extracts are helpful in any stage of the disease and did not show any major adverse effects (8,13,15).

This form of supportive treatment is now widely used in other Asian countries

including in some with the official approval of the health authorities, it is sad that it is not officially recommended by the health authorities in Sri Lanka, although this was discovered in Sri Lanka by the author in 2008 and three randomized (8,13,21,22) control clinical trials amongst the other trials proving its benefit.

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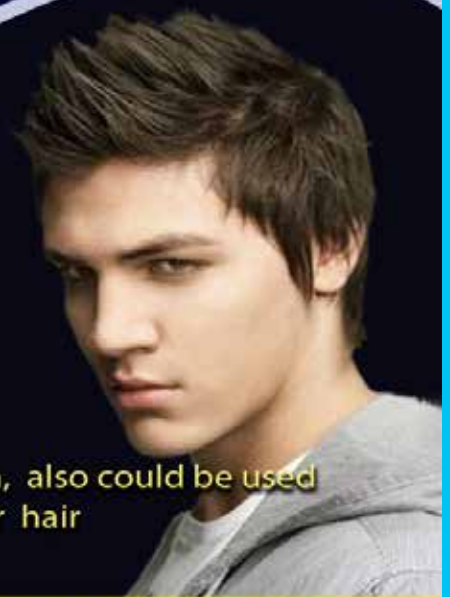

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Dengue Control what the programme should be

Dr. K.D.P. Jayathileke

For any mosquito borne disease to propagate and spread to the level of an epidemic to become a public health problem (many patients and deaths) it had been proved that -:

1. To cause an epidemic /outbreak in an area, even in the presence of few patients, the density of the vector mosquito should exceed a certain level (threshold) as measured by certain indices. (Threshold theory)
2. The cause of an epidemic is dependent on the frequency of contact of the susceptible host and the infective vectors. (Mass action principle)

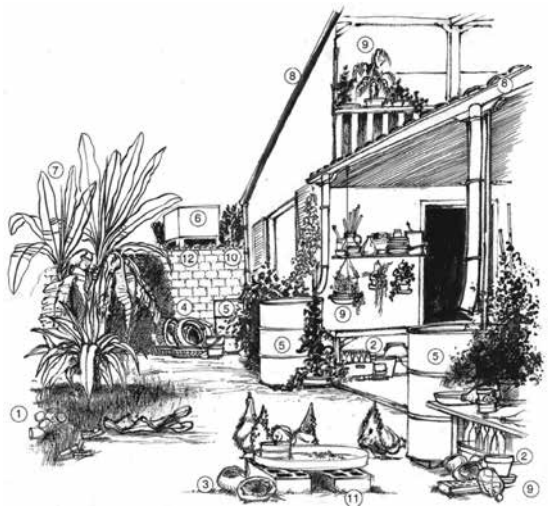
(UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases. A review of Entomological Sampling Methods and Indicators for Dengue control. TDR/IDE/Den./ 03.1)

Suggestions / Recommendations

For the control of a mosquito borne disease, specially for a disease like Dengue there should be an integrated approach involving many Ministries, Departments, Private Sector Organizations, NGOs, Religious Organizations and Private Entrepreneurs etc. A successful and a sustainable dengue control program cannot be achieved by doing one activity alone. There should be a combination of activities. The activities should be directed under the following strategies and some activities should become a part of normal life of the community for the sustenance of achievements.

1. Reduce mosquito breeding and the survival period of the mosquitoes to reduce their densities. (In a tropical country like Sri Lanka, complete elimination of mosquito breeding, especially Aedes mosquito breeding is something difficult even to imagine)
2. Reduce man mosquito contact. (This is possible to a great extent.)
3. Educate the community regarding the disease and the various control activities carried out.
4. If anyone gets the disease give immediate and correct treatment /management.

1. For Dengue, the vector mosquitoes are Aedes aegypti and Aedes albopictus with breeding places which are so varied and scattered. There are more unseen breeding places than the places we see. Even a small amount of fresh water collected anywhere is sufficient for them to breed. They breed during drought, during rains and after rains. In the absence of fresh water the mosquito could get adapted to breed even in slightly polluted water. Inside houses the mosquitoes breed in various types of receptacles containing water used for domestic purposes such as ant traps etc. Aedes mosquitoes prefer human blood to animal blood. (Anthropophilic) There are 4 types of dengue viruses causing the disease DN1, DN2, DN3 and DN4 and all these types are present in our country (Hyperendemic). Very often, one or two virus types become predominant during an outbreak. When a parson gets infected with one type, he / she develop a long lasting immunity to that type of dengue virus. So, if the next outbreak is of the same type, that person will not get the disease even if bitten by an infective mosquito.



Some examples of outdoor breeding places of Aedes. Breeding occurs in (1) discarded cans and plastic containers, (2) bottles, (3) coconut husks, (4) old tires, (5) drums and barrels, (6) water storage tanks, (7) bromeliads and axils of banana trees, (8) obstructed roof gutters, (9) plant pot saucers, (10) broken bottles used on walls as a precaution against burglars, (11) holes in unused construction blocks, and (12) the upper edge of block walls. (© WHO)

1.1 There are many ways to reduce Aedes mosquito breeding and reduce the mosquito density. But, it is not possible to detect all breeding sites. Removal of small places (like containers & plastics) detected and dealing with places which cannot be removed with a suitable larvicide or introduction of Biological control methods will reduce the breeding to a great extent and the mosquito densities will go down. BTI is a stomach poison for the mosquito larvae and the larvae will have to eat the toxin particles for it to act in the stomach to kill them. It could be used in mosquito breeding places we see. It will not act in polluted water. (BTI is recommended as a larvicide to control Anopheline mosquito larvae, in malaria control because their breeding places are specific.) There are many contact poisons which are more effective and cheap for Aedes control which can be used as larvicides but the places have to be selected carefully. All larvicides have to be reapplied every 10 -12 days.

1.2 For permanent or semi-permanent places, biological control methods such as introduction of few larvivorus fish like guppy will work. However, if there are other predatory fish in the location the process has to be repeated every 7 – 10 days as the predators will eat all the guppies we introduce. There are other larval stages of insects like dragon fly larvae and some nematodes which live in water consume a large number of mosquito larvae.

1.3 Many small animals like frogs, toads, house geckos, small lizards, spiders and some other insects consume a large number of mosquitoes which rest in the bush outside and inside houses. Indiscriminate use of insecticides by way of spraying or fogging will destroy most of these predators to upset a long lasting natural control mechanism. Environment management is another way to reduce permanent and semi-permanent breeding places.

1.4 Discarded used tires and tires stored for commercial purposes which collect water during rain is the main source

of breeding of Ae. albopictus. Certain places like transport depots and security establishment workshops have large amounts may be thousands of discarded tires which collect water during rains and breed large numbers of Ae. albopictus mosquitoes. As a temporary measure they could be collected to certain locations, staged in rows of 5 - 6 and sprayed with a larvicide (contact poison) at regular intervals of 5 - 6 days. In security establishments where outsiders are not permitted two or three persons from same place could be trained to spray the larvicide at regular intervals. However, it may be necessary to provide a sprayer and the larvicide. It is a matter of discussing the problem with the authorities and arriving at a remedy. Some permanent solution should be found for this continuing and escalating problem. (National Geographic Magazine - June 2008 page 78 'Oil boom in Siberia). To solve this problem, private entrepreneurs can come in, may be with government assistance to begin with like the establishment of polythene and plastic recycling plants in the three districts in the Western Province. The new garbage recycling project which is believed to be a private enterprise to be setup at Negambo area is another good example for this type of involvement.

1.5 If the mosquito densities are high (measure by larval or pupal densities) impending an epidemic, control of adult mosquitoes is possible by ULV spraying or thermal fogging in the area. It is only a temporary measure as another breed of mosquitoes will emerge from the breeding places after few hours to build up the densities in a few days. The activity has to be repeated every 5 - 6 days. However, these days, fogging has become a ritualistic matter rather than a useful vector control activity. When a politician visits the area for dengue control publicity, we see workers going in the front carrying fogging machines (like whip crackers in the forefront of the Kandy Perahera) fogging everywhere, mostly unwanted places followed by a TV crew. If thermal fogging is done, it is very important to direct the thermal fog to inside houses, as many Aedes mosquitoes rest inside houses. (In the present dengue control programme, we don't see this happening at all.)

In the meantime, other larval control activities like cleaning up programmes, environment manipulation / modification, introduction of biological control methods, advising people to sleep under bed nets (ITN & LLTN better), mosquito proofing houses etc. should be improved in the area. Unfortunately, during fogging, many predatory insects and animals which feed on the resting mosquitoes in the bush also get destroyed and will upset the natural control balance. It will take a very long period for these friendly predators to build up their densities to normal level or it may not happen again. Indiscriminate thermal fogging is more harmful to the programme than the apparent and temporary benefits.

1.6 It is also important to reduce the period of survival of the infected mosquitoes during the extrinsic incubation period which is 4-5 days for the dengue virus. In the bush and inside houses there are many predatory insects and animals which feed on mosquitoes. Cleaning the area of unnecessary bush and brush will expose the mosquitoes resting under the leaves etc. to their natural predators. Also, it will prevent the collection of discarded containers and plastics, which will assist in Aedes mosquito breeding. Having 2 - 3 insecticide treated bed nets (ITN or LLTN) in a house will act as a lethal resting place for all types of mosquitoes who prefer to rest on soft surfaces. Aedes and Culex mosquitoes prefer to sit and rest on soft surfaces.

2. There are many ways to reduce the man vector contact which is a very important component in the dengue control programme. However, in the dengue control programmes in Sri Lanka, very little attention or prominence is given to this very important strategy. This is the only way to reduce the frequency of contact between the infective vector and the susceptible host.

2.1 Application of mosquito repellents, wearing of long cloths in places where the mosquito densities are high, burning of mosquito coils, vaporizers etc. are some methods commonly used by the community, but all are temporary.

2.2 Sleeping inside mosquito nets are an effective way to prevent mosquito bites whilst sleeping. However, few mosquitoes could still bite the sleeper from outside on places where the body touches the net whilst sleeping. Also, if the net is torn mosquitoes could enter from those places and get their blood meal and sometimes give the infection (virus) to the sleeper. If insecticide treated nets (ITN or LLTN) are available, it is much more effective because it will kill the mosquitoes which come into contact with the net. Unfortunately at the moment these nets are not freely available in the market and in the few places where they are available, the price of these nets are too expensive for the general community to purchase. It is not every mosquito which is infective, but the density of infective mosquitoes go up with the increase of mosquito density and the number of patients in the area. Aedes aegypti and Aedes albopictus mosquitoes prefer human blood to animal blood and very often come inside houses. Their peak biting times are considered to be few hours after sunrise and few hours before sunset. However, this does not mean that they strictly adhere to this meal times or do not take a blood meal during other times. This type of misplaced emphasis seems to obscure rather than clarify the reality. (Peak feeding /biting times are common to all living things both man and animal) A hungry mosquito will bite for a blood meal at any time during day or night. Very often these days the parents go for work and the children go to school closing the house and they come home only in the evenings. There will be many mosquitoes trapped inside the house and one or two of them can be infective. The only time the mosquitoes get a chance to take the blood meal and infect the person is when the person is sleeping. This could be avoided to a great extent if the occupants sleep inside bed nets. An insecticide treated net ITN or LLTN will kill all the mosquitoes which alight on it. Thereby the mosquito densities also get reduced. It is worth even to provide a subsidy for these nets to bring the prices down to an affordable level for the community.

2.3 House screening with insect proofing mesh is the most effective and long lasting method of preventing insects (mosquitoes) entering the house and protecting the whole family from mosquito bites. Unfortunately no one except the few importers of these insect proofing meshes in Sri Lanka speak about this very important method. There are many types of meshes made of different material and they come in different colors. If a house is designed for insect proofing, the cost of the building too can be cut down considerably as the window frames and window panes of thick hard timber could be replaced with 1 inch planks, glass louvers and security frames. More than 95 % of the ventilation from the windows could be maintained by fitting the insect proofing mesh to the frames outside the security grills. The louvers can be kept open throughout day and night to get fresh air. In Sri Lanka more than fifty thousand houses are built by the

Ministry of Housing Construction and various organizations like 'Ranaviru Seva etc. for a year and another more than fifty thousand new houses are build by private individuals. If all these houses are insect proofed the inmates become protected from mosquito bites. House Builders and Architects should be partners of the dengue control programme.

2.4 I can't understand why the authorities in the dengue control programme in our country are not in a position to speak (of course with Health Ministry approval) with other Ministries like 'Housing and Construction, Defense (Seva Wanitha'), private sector House Builders and Architects Organizations and discuss the benefits of insect proofing of houses. If this had been done at least during the last 4 or 5 years we could have had at least 200,000 mosquito proofed houses saved few hundreds of lives. Also the construction cost could have been brought down if properly designed. In most countries where mosquito borne diseases are a problem, it is compulsory to have this type of protection. To build a house in the build-up areas it is mandatory to have a mosquito proofing system in the building plan before it is approved.

3. Educate the public regarding the disease and the correct information about why various control measures are done in certain ways.

3.1 School children are the best for this activity to educate the elders at home and to change some of their attitudes and practices. Educate them well about these diseases in the school and send the message home through them. Get them to do small projects at home and in the area /village they live. More emphasis should be placed on improving their knowledge regarding mosquito borne diseases and control in Sri Lanka as this threat will be there as long as we live in a tropical country. Whatever achievement we make has to be maintained as long as these diseases persist in other parts of the world.

Few simple things school children could do in their homes will go a long way to make them a habit and a part of their daily lives. Also when the children become adults and start running their own homes, they will practice what they learned in schools. There is strong reluctance amongst many adults to sleep inside a net, because they say it is too hot. It is very much better to be a little uncomfortable than to die from dengue. Also there is a very strong belief (misunderstanding) amongst our community that dengue mosquitoes bite only during 2 - 3 hours after sunrise and 2 - 3 hours before sunset. A hungry mosquito especially a one trapped inside a house and needs a blood meal will feed at any time during day or night, when it gets a victim. School children are the best to change the incorrect attitudes and practices.

4. Correct and early treatment / management are the final thing to save lives if any one gets the disease. The treatment / management facilities are much improved in hospitals now a day. However as still there is no particular drug especially for dengue, unlike in case of malaria, there can still be deaths. Saving the life of a patient who got dengue complications is a very costly affair for the State. Especially with all 4 types of dengue viruses circulating in the country (hyperendemic), anyone getting repeated attacks with different types of viruses is at risk of developing complications which can be fatal.

Prevention Is Better And Safer Than Cure

Sri Lanka is fortunate in not having many natural, topographical, cultural, financial, political and border problems like many countries where mosquito borne diseases are

more difficult to control. A successful dengue control programme for the disease not to be a Public Health Problem cannot be achieved in a hurry by concentrating on a single activity. It should be a combined effort involving many Ministries, Govt. Departments, Local Bodies, Religious Organizations, N G Os, Professional Organizations like Architects & House Builders, Private Entrepreneurs etc. working together with the Community where all pragmatic control strategies are applied and made a part of the daily life of the community. This process will take some time to see the results. Once it is achieved proper vigilance should be maintained as long as the disease is present in other countries. We cannot completely eliminate the Aedes breeding from Sri Lanka.

The writer has worked with the Antimalaria Campaign, Sri Lanka for 14 years (1970 - 1984) and as the Senior Specialist Medical Officer for Mosquito Borne Diseases Control and the Consultant Malariologist in Papua New Guinea for 17 years. (1984 - 2000)

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Rational use of Antibiotics

Dr. Chandanie Wanigatunge

Infectious diseases are common and most of these are caused by bacteria. The disease burden is seen more in low - income countries where they account for 45% of all deaths. The mainstay of treatment for these diseases is antibiotics. Today, antibiotics are the most widely used category of drugs in the world, accounting for over one quarter of hospital drug costs. Wide spread and indiscriminate use of antibiotics has resulted in almost all bacteria pathogenic to humans developing resistance to all available antibiotics. Although antibiotics are prescribed individually, the impact of bacterial resistance is seen at a population level and since microbes do not respect boundaries, all countries in the world are affected. Antibiotic resistance therefore has become a global public health problem. Its impact is felt more in developing countries with sparse resources and the resultant economic and societal issues have no easy solutions.

Antibiotic resistance

Antibiotic resistance occurs when an antibiotic has lost its ability to effectively control or kill bacterial growth. Bacteria then become "resistant" and continue to multiply in the presence of therapeutic levels of the antibiotic. Some bacteria have developed mechanisms which make them resistant to many of the antibiotics normally used for their treatment (multi-drug resistant bacteria -MDRB). Treatment of infections caused by these MDRBs need more potent and broad spectrum antibiotics. At times they cause infections for which no treatment options are available.

Antibiotic resistance occurs with both appropriate and inappropriate use of antibiotics due to the selective pressures exerted on bacteria. It is now a global problem which is spreading to new clinical niches.

Inappropriate prescription could be due to many causes and more than one cause may be seen in an individual. These include:

- Selection and prescription of the wrong antibiotic for the particular infection
- Antibiotic prescribed at a sub therapeutic dose
- Antibiotic administered through an inappropriate route
- Antibiotic prescribed for a shorter duration than what is needed
- Prescribing antibiotics for non - bacterial infections
- Non-adherence to dosing regimens by patients
- Inappropriate self-medication by patients

Increasing resistance can result in clinicians frequently using broad spectrum therapy to empirically cover the pathogens, paradoxically contributing to a higher incidence of MDRBs. In 2014 there was a high proportions of antibiotic resistance in bacteria that cause common infections (e.g. urinary tract infections, pneumonia, bloodstream infections) in all regions of the world. Resistance to fluoroquinolones used for treatment of urinary tract infections caused by E. coli was widespread. An increase in new cases of multidrug-resistant tuberculosis (MDR-TB), a high percentage of hospital-acquired infections caused by highly resistant bacteria such as methicillin-resistant Staphylococcus aureus (MRSA) or multidrug-

resistant Gram-negative bacteria were also seen. Resistance to the treatment of last resort (ie carbapenems) for life-threatening infections caused by Klebsiella pneumoniae had spread to all regions of the world.

Sri Lanka is no exception to the problem of MDROs. The recent data from the Antibiotic Resistance Surveillance Project (ARSP) and the National Laboratory Based Surveillance of Antimicrobial Resistance of significant urine culture isolates (NLBSA) show that MDROs are increasing at an alarming rate. Most of these organisms were resistant to both commonly used first line antibiotics as well as broad spectrum, high end antibiotics such as carbapenems.

According to the data from the Medical Supplies Division, the government of Sri Lanka has spent a staggering Rs 2.6 billion on antibiotics in 2011, which accounted to 26.6% of the total drug expenditure on medicines for the state sector. MSD data also show a steady increase in the use of newer broad spectrum agents with a decline in the use of some of the first line older antibiotics.

There is no data with regards to antimicrobial resistance patterns or total amount of spending on antibiotics in the private health sector institutions. However, the situation is unlikely to be different, if not worse from that of the state sector institutions given that there are no restrictions for the use of antibiotics in the private sector.

As there are no new antibiotics in the pipeline of antibiotic development and there is pressing need to optimize and extend the effectiveness of currently available agents. It is in this backdrop that rational use of antibiotics becomes a priority for all health care professional and patients to reduce emergence of antibiotic resistant strains and resultant health care costs.

Rational use of antibiotics

Rational use of antibiotics include identification of appropriate indication based on sound medical consideration, selection of appropriate antibiotic considering efficacy, safety, suitability for the patient and cost, and prescribing the appropriate dosage of antibiotic in quantities sufficient to last for duration of treatment. It also includes the provision of appropriate information to the patient to ensure that the prescribed antibiotics are taken correctly. This would necessitate the prescriber to have a sound knowledge of the causative microbe for a particular disease including its pattern of antibiotic sensitivity.

Rational use of antibiotics also requires appropriate quality of antibiotics to be maintained along with proper dispensing of antibiotics.

Rational use of antibiotics is dependent on many independent factors. All these will have an allotted role which when correctly performed will lead towards rational use of antibiotics.

Antimicrobial stewardship is a key component of a multifaceted approach to prevent or reduce emergence of resistant bacteria. It involves coordinated interventions designed to improve and measure the appropriate use of antimicrobials. These include

- selecting an appropriate drug
- optimizing its dose and duration to cure an infection
- minimising toxicity
- minimising conditions for selection of resistant bacterial strains

Measures that can be taken to improve antibiotic use

There are many measures that can be taken, each complementing the other, to improve use of antibiotics. These have been tried in different countries with varying successes. Prescriber education, formulary restriction, prior approval, streamlining, antibiotic cycling and computer-assisted programs are some of them.

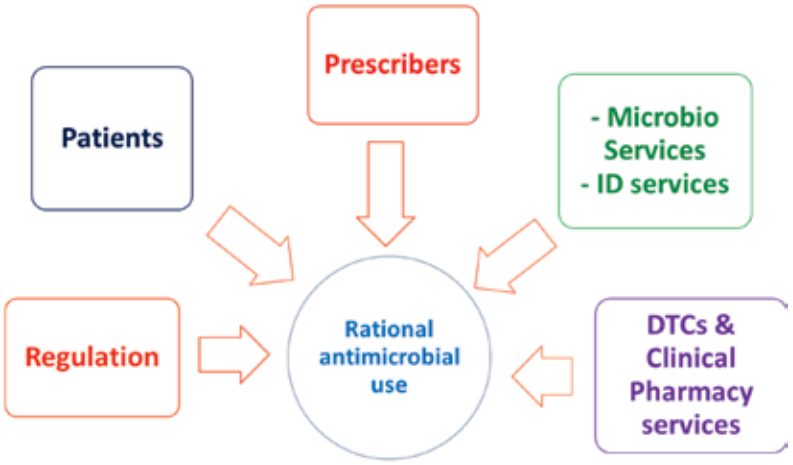

Figure 1. *Factors that affect antibiotic use*
ID - Infectious diseases, DTCs - Drugs and Therapeutic committees

Selecting the appropriate antibiotic is an evidence based and not an eminence based process. Selection should be backed by sound microbiological information which includes knowledge of the likely causative organism/s and likely antibiotic sensitivity pattern. Knowledge of the pharmacokinetics and pharmacodynamics is also needed to select the appropriate antibiotic to a patient. However, the most crucial decision that a prescriber needs to make is whether an antibiotic is indicated or not in a particular patient.

A wide range of education methods are available to improve the knowledge and practices of prescribers. These vary from one-on-one instruction at work place to more formalized and less personalized approaches such as staff conferences, lectures, mailing of instructional material and drug utilization evaluations. The last helps prescribers to understand what antibiotics are being used for different clinical situations and how they conform to available guidelines or policies. Clinical pharmacy consultations, hospital–pharmacy committee newsletters and dissemination of clinical guidelines both national and institutional are some of the other ways in which prescriber education and knowledge can be improved.

Peer reviewed national and institutional guidelines are useful in streamlining decision-making processes for clinicians. They assist in the implementation of appropriate antibiotic use taking into consideration the microbial flora and their local sensitivity patterns. Guidelines therefore need to be continuously reviewed. To be an effective tool guidelines should be widely disseminated to the prescribers who should be also accept and help implement them.

Patient education, ensuring compliance with the prescribed regimens and avoidance of self medication are important patient factors for rational use of antibiotics.

Formulary restriction will control which drugs get placed on the hospital formulary. This is a direct method of influencing antibiotic utilization and curtailing drug costs. An ideal hospital formulary should be dynamic and respond to changes in local pathogens and susceptibility patterns. It should consider new drugs that become available and other pertinent information in making decisions about formulary inclusions ad deletions. The formulary should make recommendations for therapy of common infectious diseases seen at the institution. While it will have restriction policies for use of certain drugs and thus

limit the number of antibiotics available to prescribers, it will not restrict the overuse of broad-spectrum antibiotics. The success of formulary restrictions in controlling antibiotic use is closely related to prescriber accountability. All these are labour, time and resource intense and hospital formularies are therefore not very attractive to many hospitals.

The success of any intervention to improve rational prescribing of antibiotics is dependent on an effective regulatory system that has policies in place to maintain the quality of antibiotics available and to ensure an uninterrupted supply. The regulations that are prepared needs regular monitoring to ensure adherence to them.

Conclusion

Resistance of bacteria to available antibiotics is a global pandemic which needs immediate measures. As there are no new antibiotics being developed and the availability of antibiotics is thus limited, immediate measure need to be taken to reduce emergence of resistant bacteria and to optimise and extend the effectiveness of currently available agents. Countries and institutions should select the most appropriate measures suitable for them to ensure rational use of antibiotics.

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Heroin Addiction

Dr. H.L. Pathirajamudali

Proper involvement of the medical profession is long overdue

Opium was available since Neolithic (New Stone) age. China prohibited the sale of opium in 1729. Morphine is derived from opium. Heroin (Diamorphine or Diacetylmorphine) is the 3-6 diacetyl ester of morphine. Opium was available in Sri Lanka for many centuries, but Heroin surfaced in Colombo only in the early seventies. It spread rapidly after 1983.

At the outset a small quantity of heroin will provide the required effect and may cause vomiting. To get the same effect after one year of regular use, the requirement will be several times more. There is tolerance and dependence.

A person who needed 1 pack at the beginning, will need 5 packs after one year to get the same effect. When he does not have enough money to buy heroin, he will look for other ways of getting it. He will purchase 20 packs, consume 5 packs and he will sell the remaining 15 packs at double the price. There may be over 15000 such peddlers throughout the country. Many consumers become peddlers after a few years. Heroin is a part-time job for many dealers.

During the war LTTE spread heroin to most of the areas. They used the sea route to Chilaw and Negombo to bring heroin to Colombo, and the war camouflaged the spread of heroin. Many women consume heroin where the husband or companion had introduced it to them. Heroin addiction among school children usually begins with the use of cough syrups and tramadol.

Dealers mix various additives to increase the quantity. Starch, baking soda, talcum powder, milk powder, grout, powdered diazepam or phenobarbitone, quinine, tramadol, mosquito coil ash, human ash etc. are added.

Eventually, the heroin content is between 15% and 50%. During the process of mixing additives, molecules of heroin escape into the atmosphere. Over several months the entire household gets addicted including the children and pets. Males are deceived into heroin consumption to increase sex drive. Though there is a positive effect at the beginning, after some time, there will be a complete loss of desire and libido. Undue publicity given by media and by various other means is a cause for the spread of heroin.

Heroin addicts come from all walks of life. There are beggars, drivers, directors, musicians, students, teachers, hotel staff, bankers etc. It has spread to all the remote areas in Sri Lanka. A survey has found the number of heroin addicts in the country to be around 78000. But after talking to several thousands of heroin addicts during the past 28 years, I believe the number of addicts is much higher.

According to the United Nations the number of drug addicts globally is around 280 million. It is reported that more than 3.5 tons of heroin is smuggled into Sri Lanka every year.

Over 90% of heroin addicts who sought treatment said that heroin was introduced to them by friends. This is an indication of lack of strong bonds between parents and children. Present day children do not experience a proper childhood. If parents

can take the place of his friends, then the child will not come in contact with heroin. Parents should become child's best friends. Parents should spend much more time with children. It is a mistake that many parents want to achieve what they themselves failed to achieve, through their children.

Being with children should not mean causing stress and agony to them. It is stress, anxiety fear and loneliness that drag children towards heroin.

Widening of the gap between haves and have nots cause anger, confusion and frustration, thus causing lack of contentment. Lack of contentment is a cause for addiction. Very few at any rung in the society are at ease and contented.

Parents should be well aware of heroin and its dangers. Teachers should play a vital role in detecting vulnerable cases among students. The education process should extend to the medical community with a clinic in the District Hospital for school children. We have to see more spiritual grounding among young people, with the introduction of a spiritual component to education.

Spiritual practices take off fear, anxiety and stress and give strength, confidence and satisfaction with what they have. Life will be easier when you live a few steps below your top rung you have reached and in the middle path. Losses of traditions, break down of the family unit and economic chaos have taken the people away from reality and now they find solace in heroin and other addictions.

Effects of continuous usage

Heroin use of long duration causes permanent changes in the brain and brain functions. That means many altered brains. Heroin affects the mesolimbic dopaminegic pathway. (reward pathway). The mesolimbic pathway consists of the ventral tegmental area, nucleus accumbens, amygdale, hippocampus and stria terminalis. Dopamine is released into the nucleus accumbens and produces pleasure. An active ingredient of heroin is morphine which is of plant origin. Heroin interferes with the production of dopamine and endorphins (endogenous morphine). Morphine, the active ingredient of heroin, has a chemical structure similar to endorphins, a class of chemicals present in the brain of animals. Heroin at the beginning gives pleasure without any reason and later develops into an addiction even when it no longer gives pleasure. It is then consumed mainly to prevent the painful withdrawal symptoms. The mesolimbic pathway is heavily implicated in neurological functions of addiction, schizophrenia and depression. Like heroin addiction, schizophrenia and depression have similar changes in the brain. Heroin is also capable of shrinking brain areas that are essential for wise decision making and to withstand momentary urges. That is why so many people experience relapses. The brains prefrontal cortex helps to determine the adaptive value of pleasure recorded by the nucleus accumbens. If the prefrontal cortex is not functioning properly then heroin has more power to monopolize the reward pathway. Prefrontal cortex is not fully developed in adolescence which is the reason why many adolescents become addicted during this period of life. Anti-social elements also have deficiencies in the prefrontal cortex.

Inhalation of heated heroin vapour can produce progressive spongiform leuco encephalopathy in the brain. There is elevated lactate in white matter. They develop ataxia, dysmetria and dysarthria. Earliest symptoms of these conditions are slurred speech and difficulty in walking.

Molecules of additives and contaminants in street heroin, when absorbed into the blood, those come together and form particles which clog the minute blood vessels leading to the heart, lungs, liver, kidney and brain. Clogging causes death of small areas of tissue in vital organs. These particles clog the small

blood vessels in the brain and cause partial blindness, loss of hearing, headache, loss of memory and various types of seizures.

Some heroin addicts have early clinical features of Alzheimers's disease such as forgetfulness, personality changes and changes in sleep patterns etc. Shrunken brain, dying neurons with tangles and plaques were discovered at postmortems of heroin addicts, which are features of Alzheimers's disease.

Heroin addiction is a brain disease because heroin can change the brain structure and how it works. This leads to compulsive and destructive behaviours. This is not a moral weakness or weakness of character. Heroin fumes have a direct effect on lung tissue and long term use can affect the users' immune system, making them prone to lung infections such as pneumonia and tuberculosis. Most of the patients at the chest hospital in Welisara are heroin addicts. Many heroin addicts suffer from acute bronchitis, chronic bronchitis, bronchial asthma, bronchiactasis, Chronic obstructive pulmonary disease (COPD) cystic fibrosis, emphysema, tuberculosis, lung abscesses, pneumonia and emphysema. Heroin reduces the heart rate and blood pressure and can cause pulmonary oedema leading to heart failure. The breathing rate can slow down causing respiratory failure and death from cardiac arrest. There is also a risk of death due to inhaling vomitus as heroin stops the cough reflex.

Additives and contaminants increase the amount of toxic substances in the circulation several times more than in a normal person. It burdens the liver heavily to neutralize the toxic substances than what is possible. Therefore the liver degenerates and the ability to neutralize the toxins decreases.

Excess toxins in circulation can cause sudden death. Particles of additives and contaminants clog the glomeruli of kidneys resulting in gradual kidney damage. In such patients estimated glomerular filtration rate [eGFR] should be determined to assess the level of kidney damage.

Many heroin addicts over 50 years of age have multiple organ diseases and more than heroin itself, major damage is done by other impurities and additives Heroin causes vomiting, dry mouth and constipation which if severe and for a long period causes haemorrhoids. Immune reactions to contaminants and additives cause arthritis and other rheumatological problems. Wounds and fractures take a long time to heal. Heroin has an effect on the immune system. Increased susceptibility to infection, poor diet, stress and lack of sleep, delay wound healing.

In Sri Lanka injecting heroin is not common. Therefore, spreading of disease by needles is less. But incurable sexually transmitted diseases such as AIDS, Hepatitis B and C, and herpes simplex have spread among inmates of overcrowded prisons and other isolations.

Loss of franchise (inability to complain) is taken advantage of by people with deviated sexual behaviors. Male rape is a common painful experience that many heroin addicts undergo in these isolations.

Abstinence will not cure it

Heroin addiction is a chronic disease of the brain and abstinence will not cure it. Urine test, blood test and hair test becoming negative is not an indication to say the addiction is cured. Brain structure and functions are altered resulting in changes that persist long after the drug use has ceased. These change in the brain and the heroin residue that remains in the fatty tissues for about six years, cause relapses even, after long periods of abstinence. But with detoxification and treatment, heroin residue could be removed completely within 2 - 3 months.

A person who takes 1 gram of heroin for a day - if no detoxification is done - then he could take 1 gram of heroin even after 2 years

of abstinence. After detoxification he will not get the urge to take heroin. If he takes heroin again, then a fraction of a gram will make him high and he will begin to vomit.

If a person who is not cured goes to Saudi-Arabia to work, wait there for 2 years without heroin and when he returns on seeing the Bandaranaike International Airport, he will begin to yawn, tears appear and he will have loose motions. A relapse has occurred and he will need heroin again.

As with other chronic diseases, earlier the treatment offered in the disease process, the greater the positive outcome. Detoxification, which is the removal of heroin residues from the fatty tissues plays a vital role in the treatment. Many thousands were completely cured due to early treatment and detoxification, together with attention paid to their medical, psychological, social and vocational problems Heroin addicts should continue working while taking treatment. This will help them to retain their jobs and keep themselves occupied. Patients should continue with detoxification for 2 - 3 months for a complete cure.

Methadone, Buprenorphine, Naltrexone, Clonidine, Nalaxone, Lofexidine, and suboxone (combination of Buprenorphine and Nalaxone) are used in the treatment of heroin addiction in many countries. Memantine, a drug that blocks NMDA receptors has proved promising and will help to treat heroin addiction once research is complete. Very little research has been done in this field to discover new treatment for heroin addiction.

The National Dangerous Drugs Control Board Act has stated that there should be efforts to promote treatment. Methadone 5 mg tablets, methadone syrup, Buprenophine (Temgesic) and Clonidine were available in Sri Lanka during nineteen eighties. Methadone 5 mg tablets were available for the past 28 years and were earlier supplied by the civil medical stores of the Ministry of Health and then by the medical supplies division (MSD) of the Ministry of Health.

Methadone was made available by a few farsighted directors at the Ministry of Health, with whose assistance many doctors administered treatment to this neglected and dangerous section of patients. There was a Ward with 30 beds at the Mulleriyawa Hospital for Heroin addicts. This Ward no longer exists. According to British National Formulary (BNF) the usual daily dose of methadone 5 mg tablets is 6 -12 tablets. But, the quota allocated for a month was so inadequate, a patient was given ½ to 1 tablet for a day. To compensate the shortfall of methadone, several other medicines were given as symptomatic treatment. Detoxification helped to remove the heroin residues from the fatty tissues which made the treatment more effective.

Methadone is effective because it needs only once a day treatment. It reduces the use of illicit heroin, criminal activity and the spread of diseases like HIV herpes and hepatitis. It is cost effective and improves social health and productivity. Methadone also reduces suicides and helps to retain them in treatment programmes. Annually there will be a week or two when heroin will not be available. Patients call it a traffic, during which period the price of heroin will sky rocket. However, many survived due to the availability of medicines and those who were not aware of treatment underwent immense suffering, with a few cases of suicides. Effective and already available treatment had not been used throughout the world, resulting in the destruction of many lives.

Brain damage occurs in millions of heroin addicts globally and after several years their lives are beyond repair. The high cost of heroin and non availability of treatment in Russia has led to the use of cheap but much dangerous drugs such as Desomorphine which has the street name Krokodil.

Krokodil serves as an excellent illustration of the havoc that bad drug policies can wreak on communities. Impurities in it produces horrific injuries characteristic of Krokodil.

Doctors who treated heroin addicts did not continue for a long period as they had to sacrifice their normal medical practice to treat heroin addicts and also had to undergo traumatic experiences. They were insulted, threatened and humiliated. They were slandered through the media. Their quotas of methadone were stopped or slashed.

There are many Sri Lankan doctors working as general practitioners abroad than the few full time general practitioners in Sri Lanka. Many Doctors no longer administer vaccines to children and also avoid treating many medical emergencies. Those are referred to government hospitals.

There had been instances when laymen interpret a death due to natural causes as negligence. These could be attributed to irresponsible journalism which has made laymen to become consultants and judges. Thus it prevented many Doctors with years of experience and exposure refraining from treating heroin addicts.

Developments in drug policy

Major changes in drug policy occurred after United Nations single convention on narcotic drugs in 1961. The war on drugs was initiated by former US President Richard Nixon on 18th June 1971. Opium was known to be available since 10200 BC. Ancient priests used opium in rituals and physicians used opium to treat patients. Surgery was performed using opium because it is a strong analgesic and a Hypnotic. In all the wars of history, pain reliever was opium and its derivatives. Opium and its derivatives became a curse to humanity only during past One Hundred years. USA had to spend over a Trillion dollars during past 4 decades for war on Drugs. US prison population increased from 500,000 in 1980 to 2.3 million in 2009. Former California Governor Arnold Schwarzenegger has said, in 1980 allocated budget for prisons was 3% and for that of higher education was 10%. But, in 2009 he had to allocate 11% for prisons and 7.5% for higher education.

In 1983 in Sri Lanka a pack of heroin was ten rupees. Four people shared one pack and it was adequate for one day. In 2014 a highly adulterated pack was Rupees 1000. One person needed at least 2 packs for a day.

Social media reported former British Prime Minister Tony Blair as having pledged that wiping out heroin was one of the main reasons to invade Afghanistan. Between 2001 and 2011 Afghanistan produced, from 185 tons in 2001 to a staggering 5800 tons in 2011. Farmgate value of 1 kg of heroin is 450 pounds and the UK street price of 1 kg of Heroin is 75,700 pounds. In this most lucrative business when getting rid on 100 dealers, it makes way for more than 100 new dealers. Money from heroin is used to buy arms for terrorist organizations.

The Global commission on Drug Policy which was held in June 2011 consisted of 19 former world leaders, where former General Secretary of UN, Dr. Kofi Annan was one of the Commissioners. They put forward 4 principles and 11 recommendations. This commission which discussed how the war on drugs fuels the global pandemic of HIV/AID was held in Jan. 2012. A repeat Global Commission on drug Policy was held in March 2014. The Global Commission's recommendations were endorsed by over 600,000 signatories. Global advocacy organization (AVAAZ) with its 38 million members worldwide presented a public petition in support of the Global Commission report.

Many important views were expressed by the 39th President of US. Jimmy Carter on 16th June 2011. By the former President of Royal College of Physicians Sir. Ian Gilmore on 17th Aug. 2010, by Dr. Stephen Rolles in British Medical Journal on 13th July 2010 and,

Chairman of UK bar Council Nicolas Green QC. Developments in Uruguay, Portugal, Switzerland Colorado, Washington and Alaska are noteworthy. UN General Assembly Special Session on Drugs (UNGASS) related to Drug Policy was held in 1988. UNGASS 2019 was brought forward to 2016 by the efforts made by Mexico and 95 other countries. UNGASS 2016 will have a crucial effect and the destiny of over 280 million drug addicts worldwide as the treatment, research to discover new medications to treat addiction and the freedom for addicts in many countries to present themselves as patients for treatment will depend on it.

Conclusion

Treatment in Sri Lanka during the past 28 years had been effective safe and affordable. With the money needed to buy heroin for 2 days, they could obtain treatment for one month. Doctors in Sri Lanka are capable of curing most of the heroin addicts, provided they come for treatment before severe brain damage occurs. However there should be an adequate and a continuous supply of basic medicines to treat them. Patients should be free to obtain treatment without any harassment. Doctors should be able to safeguard professional secrecy, as it is totally unethical and dangerous to divulge information about patients.

If the present conditions improve, and if the doctors are allowed to work with dignity and with due respect, then they could save thousands of youth before they end up in mental asylums and prisons.

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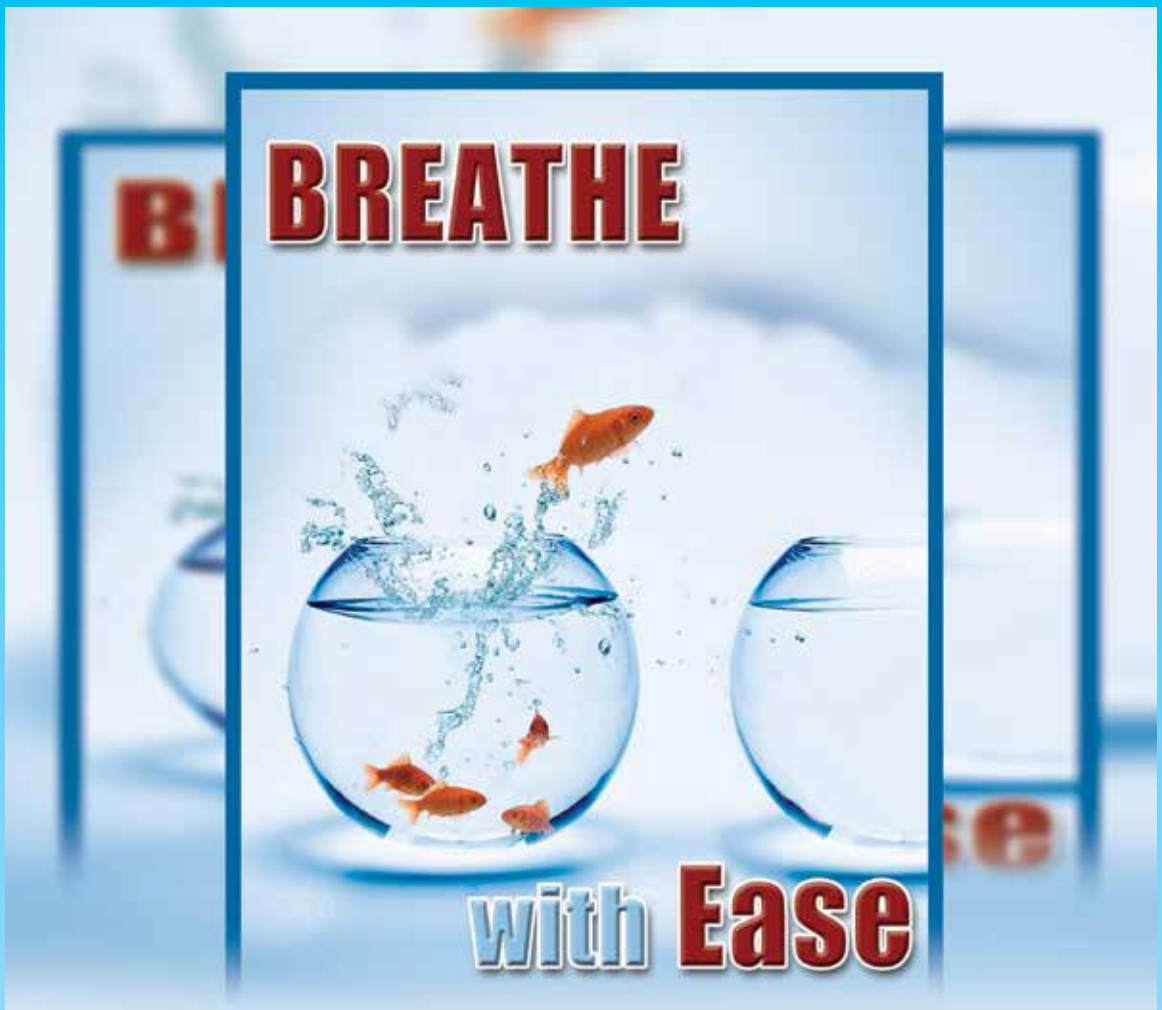

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HPV Vaccine: A vaccine for prevention of cervical cancer

Prof. Jennifer Perera

1. What is HPV ?

Human papillomavirus (HPV) is a common sexually transmitted virus all over the world. Most HPV infections don't cause any symptoms, and go away on their own. But HPV is important mainly because it can cause cervical cancer in women. Every year in Sri Lanka about 1325 women die of cervical cancer. It is the 2nd leading cause of cancer deaths among women around the world including Sri Lanka, first being breast cancer. HPV is also associated with several less common types of cancer in both men and women. It can also cause genital warts in both men and women and warts in the upper respiratory tract (back of throat including base of tongue and tonsils). Genital warts are not life-threatening. But they can cause emotional stress and their treatment can be very uncomfortable. It also can cause cancers of the anus, penis, vagina, vulva and oropharynx..

2. HPV vaccine. Why get vaccinated ?

Two vaccines are available to prevent the human papillomavirus (HPV) types that cause most cervical cancers. HPV vaccine is an inactivated (not live) vaccine which protects against two to four major types of HPV. These vaccines are, bivalent vaccine and quadrivalent vaccine. The quadrivalent HPV vaccine, also prevents HPV types that cause most genital warts. The quadrivalent vaccine also has been shown to prevent some cancers of the anus, vulva (area around the opening of the vagina), and vagina. Both vaccines are administered as three injections spread over 6 months.

HPV vaccine can prevent about 80% of cervical cancer and most genital warts.

Protection from HPV vaccine is expected to be long-lasting and additional booster doses are not recommended. But vaccinated women still need cervical cancer screening because the vaccine does not protect against all HPV types that cause cervical cancer.

3. Who should get the HPV vaccine and when?

Routine Vaccination

HPV vaccine is routinely recommended for girls between 11to 12 years of age. The quadrivalent vaccine (the type recommended for prevention of genital warts) may also be given in three doses to boys aged 9 to 26 yrs. Why is HPV vaccine given to girls at this age?It is important for girls to get HPV vaccine before their first sexual contact, before they get exposed to HPV. However, if a female is already infected with a type of HPV, the vaccine will not prevent disease from that type.

Catch-Up Vaccination

The vaccine is also recommended for females 13 through 26 years of age who did not receive it when they were younger.

4. Will sexually active females benefit from the vaccine ?

Ideally females should get the vaccine before they become sexually active and exposed to HPV. Females who are sexually active may also benefit from vaccination, but they may get less benefit. This is because they may have already been exposed to one or more of the HPV types targeted by the vaccines. However, few sexually active young women

are infected with all HPV types prevented by the vaccine, so most young women could still get protection by getting vaccinated.

5. Can pregnant women get the vaccine ?

The vaccines are not recommended for pregnant women. Studies show that HPV vaccines do not cause problems for babies born to women who were vaccinated while pregnant, but more research is still needed. A pregnant woman should not get any doses of either HPV vaccine until her pregnancy is completed.

Getting the HPV vaccine when pregnant is not a reason to consider terminating a pregnancy. If a woman realizes that she got one or more shots of an HPV vaccine while pregnant, she should do two things:

- Wait until after her pregnancy to finish the remaining HPV vaccine doses.
- Should inform her obstetrician and the vaccine supplier.

6. Should girls and women be screened for cervical cancer before getting vaccinated ?

Females do not need to get an HPV test or Pap test to find out if they should get the vaccine. However it is important that women continue to be screened for cervical cancer, even after getting all 3 shots of either HPV vaccine. This is because neither vaccine protects against ALL types of cervical cancer.

7. How effective are the HPV Vaccines ?

The vaccines target the HPV types that most commonly cause cervical cancer. The quadrivalent vaccine also protects against the HPV types that cause most genital warts. Both vaccines are highly effective in preventing the targeted HPV types, as well as the most common health problems caused by them.

The vaccines are less effective in preventing HPV-related disease in young women who have already been exposed to one or more HPV types. That is because the vaccines prevent HPV before a person is exposed to it. HPV vaccines do not treat existing HPV infections or HPV-associated diseases.

8. How long does vaccine protection last ?

Research suggests that vaccine protection is long-lasting. Current studies have followed vaccinated individuals for six years, and show that there is no evidence of weakened protection over time.

9. What does the vaccine not protect against?

The vaccines do not protect against all HPV types - so they will not prevent all cases of cervical cancer. About 20% of cervical cancers will not be prevented by the vaccines, so it will be important for women to continue getting screened for cervical cancer (regular Pap smear tests). Also, the vaccines do not prevent other sexually transmitted infections (STIs).

10. How safe are the HPV vaccines ?

Both vaccines have been licensed by the Drug Regulatory Authority of the Ministry of Health as safe and effective. Both vaccines were studied in thousands of people around the world, and these studies showed no serious safety concerns. Side effects reported in these studies were mild, including pain where the injection was given, fever, dizziness, and nausea. Vaccine safety continues to be monitored by Ministry of Health, Epidemiology unit, CDC(USA) and other global institutes. More than 46 million doses of HPV vaccine have been distributed in the United States as of June 2012.

Fainting, which can occur after any medical procedure, has also been noted after HPV vaccination. Fainting after any vaccination is more common in adolescents. Because fainting can cause falls and injuries, adolescents and adults should be seated or lying down during HPV vaccination. Sitting or lying down for about 15 minutes after a vaccination can help prevent fainting and injuries.

11. What about vaccinating boys and men ?
Quadrivalent vaccine was found to be safe and effective for males 9 -26 years. ACIP recommends routine vaccination of boys aged 11 or 12 years with 3 doses of quadrivalent vaccine. The vaccination series can be started beginning at age 9 years. Vaccination is recommended for males aged 13 through 21 years who have not already been vaccinated or who have not received all 3 doses. The vaccine is most effective when given at younger ages; males aged 22 through 26 years may be vaccinated.

12. What is the cost of the HPV vaccine ?
The price of a dose of the HPV vaccine ranges from Rs 3000/ to 3500/-

13. What vaccinated women need to know: will women who have been vaccinated still need cervical cancer screening?
Yes, vaccinated women will still need regular cervical cancer screening by Pap smear tests (PST) because the vaccines protect against most but not all HPV types that cause cervical cancer. Also, women who got the vaccine after becoming sexually active may not get the full benefit of the vaccine if they had already been exposed to HPV.

14. Are there other ways to prevent cervical cancer?
Regular cervical cancer screening and follow-up can prevent most cases of cervical cancer. The PST can detect cell changes in the cervix before they turn into cancer. PST can also detect most, but not all, cervical cancers at an early, treatable stage. Most women diagnosed with cervical cancer have either never had a PST, or have not had a PST in the last 5 years (Data from US).

15. Should women who already have cervical cell changes get the vaccines?
It is recommended that women who have abnormal PST results, which may indicate HPV infection, should still receive HPV vaccination if they are in the appropriate age group because the vaccine may protect them against high-risk HPV types that they have not yet acquired. However, these women should be told that the vaccination will not cure them of current HPV infections and that it will not treat the abnormal results of their PST

16. Are there other ways to prevent HPV ?
For those who are sexually active, condoms may lower the chances of getting HPV, if used with every sex act, from start to finish. Condoms may also lower the risk of developing HPV-related diseases (genital warts and cervical cancer). But HPV can infect areas that are not covered by a condom. Therefore condoms may not fully protect against HPV.

People can also lower their chances of getting HPV by having a faithful relationship with one partner. However, it may not be possible to determine easily, if a partner who has been sexually active in the past is currently infected.

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Erectile dysfunction

Dr. D.G.A. Abeygunaratne

Erectile dysfunction (impotence) is the inability to get and keep an erection firm enough for sex. When I was a medical student in early1960s, erectile dysfunction, which was rarely spoken about was thought to be due to a psychological causes. This notion has now changed and confirmed by evidence and now we are informed that 50% of cases are due to an organic cause and less than 20% due to psychological factors.

Sufferers of this problem take a long time to come forward and seek help. Causing significant anxiety and thereby compounding the symptoms. It takes a doctor with significant insight and patience to make the diagnosis and help the patient to come forth with his symptoms and signs. It may take a significant length of time to obtain the information required to make the diagnosis as well as commence treatment. The patient should be encouraged and made comfortable in speaking openly.

What to do:

- Offer a sympathetic ear
- Listen carefully
- Take a detailed history
- Take a detailed psychiatric history
- Detailed examination
- Go through possible causes and risk factors
- Discuss management options
- Reassure patient doctor confidentiality

Offering a sympathetic ear with patience is the main stay of treatment and further management. This will enable the patient to open up to the doctor and thereby being able to obtain a thorough history. Let the patient speak interrupting only occasionally and listening. It is important to take a drug history and a social history in detail. Alcohol and smoking can have a significant impact on the problem. A past medical history may indicate existing causative factors.

Examination should be thorough.

Organic causes

- Cardiovascular disease
- Diabetes
- Cavernosal disorders (Peyronie's disease)
- Neurological problems such as trauma after prostatectomy
- Hormonal insufficiencies (hypogonadism)
- Drugs (antidepressants)
- Ageing
- Smoking

Psychological factors such as performance anxiety, mental disorders and stress also play a significant role .

Management

Identify and treat the underlying cause. Besides this the first line treatment of erectile dysfunction consists of a trial of PDE5 inhibitor drugs the first of which was sildenafil (viagra).

A topical cream combining alprostadil with the permeation enhancer DDAIP has been approved in Canada under the brand name Vitaros as a first line treatment for erectile dysfunction

Another treatment option is injection treatment, using papavarine, phentolamine and prostaglandin E1. In some cases,

treatment can involve prostaglandin tablets in the urethra. The latter two options have become less popular due to the high efficacy and ease of use of sildenafil.

Penile prosthesis and penile pump or vascular reconstructive surgery are also available options if medical measures fail.

In conclusion, erectile dysfunction is highly treatable and patients should seek help early and doctors intervene early, and this should be done sensitively taking the patient discomfort and anxiety into consideration.

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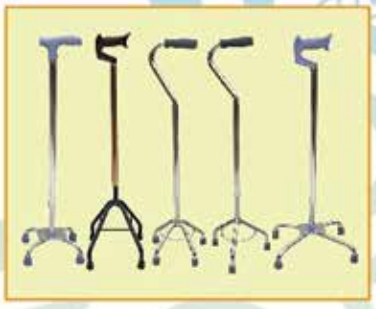

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Breaking Bad News

Dr. Thivanka Munasinghe

As doctors, we spend our time caring for patients and their families but despite all our efforts, there are times when we must deliver bad news.

Breaking bad news is one of the most difficult and demanding tasks that a doctor must face, one for which we are often untrained and emotionally ill equipped. A number of factors can affect a doctor's ability and willingness to impart bad news sensitively, such as feelings of incompetence and fear of unleashing a negative reaction from the patients, as well as being reminded of their own vulnerability to terminal illnesses, and finding themselves powerless over emotional distress and time constraints.

Breaking bad news is a complex skill where in addition to the verbal component, it also requires the ability to recognise and respond to the patient's emotions, deal with the stress that the information creates but still be able to involve the patient in decision making and maintain hope where there may be little. A properly structured and well-orchestrated communication has a positive therapeutic effect while communication that is ambiguous, or incomplete will leave the patient ill prepared for the future and may affect their reactions to the situation and possibly their recovery.

Bad news is defined as any information which adversely and seriously affects an individual's view of his or her future. Whether the news is considered to be bad or not is also influenced by a number of factors such as: the context in which it occurs, the way in which it is perceived and interpreted by the receiver, and their general state of mind.

Interview is the process of disclosing bad news. This can be viewed as an attempt to achieve four essential goals:

1) Gathering information from the patient. This is mainly to determine the patient's knowledge, expectations and readiness to hear the bad news; which will be not much of a challenge for the Family Physician as he / she already knows the patient well enough.

2) Provide necessary information in accordance with the patient's needs and desires.

3) Support the patient by employing skills to reduce the emotional impact and isolation experienced by the recipient of bad news.

4) Develop a strategy in the form of a treatment plan with the input and cooperation of the patient.

The steps involved

Although breaking bad news is never an easy task, having a plan of action and use of protocols such as 'SPIKES', 'ABCDE' or 'BREAKS' may help the difficult situation.

'SPIKES'

S - SETTING-UP of the interview:

This can be accomplished by reviewing the patient's case thoroughly and planning out the best options for the individual situation taking into account the patient as well as his or her family background. Care, eye contact and building up rapport are key ways to show support and connection towards the patient. Privacy and confidentiality should be maintained always. Most patients want to have someone else with them but this should be strictly the patient's choice.

P - Assessing the patient's PERCEPTION:

Should use open-ended questions to create an accurate picture of how the patient perceives the medical situation. E.g., "What do you know about your medical situation so far ?" You can then correct misinformation and tailor the bad news to what the patient understands. It can also determine if there is any variation of denial, wishful thinking, omission of details, or unrealistic expectations of treatment.

I - INVITATION from the patient:

While some patients express a desire for details of their illness and prognosis, some patients do not, especially in a culture such as ours. If patients do not want to know details, offer to answer any questions they may have in the future or if patient permits, to talk to a relative or a friend.

K - KNOWLEDGE and information to the patient:

Before the consultation, a doctor must fully familiarise themselves with the case. Gather all the findings, test results and reports made by multi-disciplinary teams as well as data on prognosis, treatment options and even survival rates. All this information must be tactfully and sensitively delivered to the patient depending on their level of understanding and willingness for details. It is often best to give information step-by-step and check periodically the patient's level of understanding.

E - EMOTIONS and empathic responses:

Responding to the patient's emotions is one of the most difficult challenges of breaking bad news. Patients' emotional reactions may vary from silence to disbelief, crying, denial, or anger. In this situation the physician can offer support and solidarity to the patient by making an empathic response.

S - STRATEGY:

Patients who have a clear plan are less likely to feel anxious and uncertain about their future. It is important to ensure that they are ready to hear and discuss their options after receiving the initial bad news. Exploring the treatment options, pain management, patient's knowledge, expectations, fears, symptom, emotions, specific realistic goals, hopes and palliation concerns will allow the physician to understand the patient's frame of mind and to plan the action strategy.

'BREAKS'

B - Background:

Effective therapeutic communication is dependent on the in-depth knowledge of the patient's problem. Apart from doing an in-depth study on the patient's disease

status, his emotional status, coping skills and educational level are also reviewed before attempting to break the bad news. The physician has to be sensitive to the cultural orientation and understand that they may be governed by their beliefs.

R - Rapport:
The physician should establish a good rapport with the patient and the ease with which the rapport is being built is the key to a continued professional relationship. It is necessary to provide space for the patients to open up and then try to take cues from their conversation to initiate the process of breaking bad news when the patient appears comfortable and ready.

E - Exploring:
When breaking the bad news, it is easier to start from what the patient knows about his / her illness. The physician is then in a position of confirming bad news rather than breaking it. The history, the investigations and the difficulties met, need to be explored. Try to involve those who are close to the patient in the decision-making process, if allowed by the patient.

A - Announce:
The patient has the right to know the diagnosis or to refrain from knowing it. Delivery must be straightforward and must avoiding medical jargon, lengthy monologues and elaborate explanations are not desirable.

K - Kindling:
People listen to and react to their diagnoses in different ways. It is advisable to ensure that the patient listens to what is being told, by asking them to recount what they have understood. Be clear that the patient did not misunderstand the nature of disease, the gravity of situation, or the realistic course of disease with or without treatment options. Dealing with denial is a difficult task. It may be necessary to challenge denial because the patient may have some important unfinished business to conduct, or because the patient is refusing treatment that might alleviate symptoms.

S - Summarize:
A good physician must summarize the key points discussed in the session and the concerns expressed by the patient as well as treatment / care plans for the future. The necessary adjustments that have to be made both emotionally and practically need to be stressed. The patient must be cared for after the consultation and not left alone.

'ABCDE'

A - Advance preparation by assessing the patient's understanding, arranging for a family meeting and reviewing the case.

B - Build a therapeutic environment by finding a quiet place, using open body language and addressing all patient fears.

C - Communicate well by being direct, ensuring patient understanding and avoiding medical jargon.

D - Deal with patient and family members by assessing the patient's reaction and coping strategies, listening actively and showing empathy.

E - Encourage and validate emotions by ensuring accurate interpretation of the news, addressing further needs including support, providing written information and arranging follow up.

Imparting bad news is an emotional experience for the doctor as well as for the patient. Take a moment to recognise this before moving on to the next consultation. Bad news, however tactfully delivered, is still bad news, which will result in an adverse reaction by the receiver. The key is to remember that all patients are someone's parent, brother or

sister and to care for them as we would do to our own. Keeping this in mind will help us to better serve the patients as caring health professionals.

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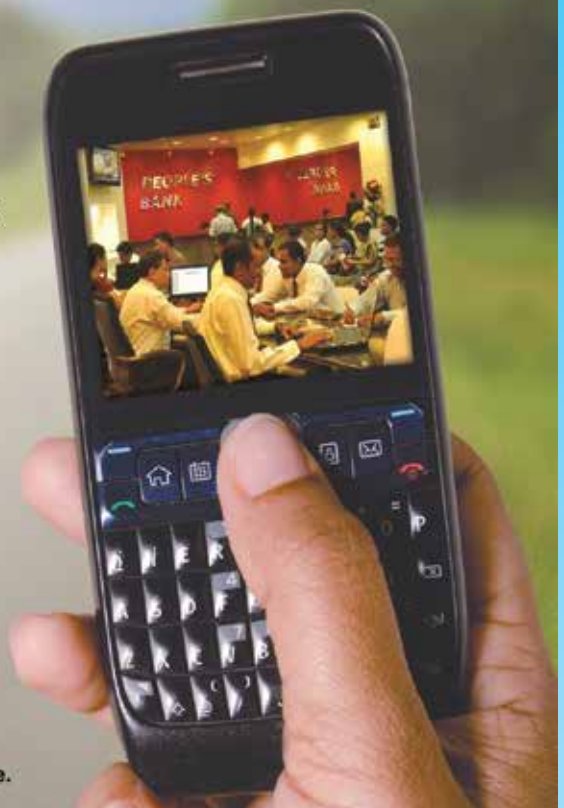

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The Buddha's Advice on Family Life

Dr. Keerthi Jayasekera

It has been mentioned in many a place in Buddhist scriptures the Buddha's was a Caritanukula Desana - that means that the Buddha taught his listeners the Dhamma suitable to their temperaments.

One day a poor Brahmin came to the Buddha and said. "Master Gautama I am a poor person and am going to a distant city seeking a job with a view to earn some wealth, will you kindly give me some instructions in order to be successful in my job." The Buddha agreed and instructed him on the way to success in his work, some time passes and the Brahmin returned as a man of riches. Once some villagers came to the Buddha and said ''Lord, we are householders following varied jobs for maintenance of our Families, and thereby we are full of responsibilities. We have no time to devote to higher religious practices. We expect from you some instructions to live our present life in peace and be born into a happy state after death" The Buddha saw their mental tendency and gave an instruction suiting their need.

The Buddha said to Anathapindika, one of his wealthy lay devotees that there are five merits in earning wealth.

1. A wealthy person can live a healthy, happy and long life supplying all his needs.
2. He can look after his parents when they are sick or old or in need of his support.
3. He can support his wife and children supplying all their needs.
4. He can help his relatives, friends, servants and others.
5. He could support recluses and priests who have given up household life and devoted their time to higher religious practices.

According to Buddhism it is easier for a rich man to enter heaven, if he properly spends his wealth, and doing his duties. It is not wealth or fulfilling his duties but miserliness and other wrong ways that obstruct the way to heaven, so the Buddha said.

One day Vyagghapajja the Koliyan asked the Buddha for some instructions to be a success in life. Buddha said to be successful in business and other affairs in this life, a person should been endowed with four things:

1. Achievement of untiring effort
2. Achievement of awareness - sometimes fire or flood and the like might consume his wealth, ill-disposed heirs would try to take away one's wealth. Bad habits of gambling, debauchery in sex and drunkenness. One should be loyal to the government otherwise one's wealth would be confiscated.
3. To have good companions. who instruct, help and encourage him in carrying out his business. Sometimes it is better to keep to oneself and carry out one's business alone.
4. A simple way of living. One's expenditure should not exceed one's income.

The Buddha advised the youth Sigalaka:
"Let him divide the Income in to four portions, one portion should be used for his daily expenses. Two portions should be used for the progression of his business, one portion should be deposited carefully for the use in future in the case of any failure or bankruptcy.

On another occasion Buddha said that a trader should be active in his business in the morning, noon and afternoon. According to Buddhism, poverty may be a result either of a past karma or a present karma or of both. But most of such karmas can be suppressed and overcome by wise and far-seeing steps one takes in present life.

The Buddha has said concerning wealth and other necessities of life.

"Brethren these 10 things desirable, pleasing and charming, are hard to achieve in the world.

1. Wealth
2. Beauty
3. Health
4. Virtues
5. Holy religious life
6. True friends
7. Erudition
8. Wisdom
9. Genuine Dhamma
10. to be born in heavens

From these words of the Buddha, It is very clear that he has valued the laymen's growth in wealth and every aspect of family life.

One day Nakula - pitu told the Buddha "we want to see each other not only in this life but also in the life to come". To them the Buddha said, if both wife and husband desire to see each other both in this life and in the life to come, both should be matched in four qualities. In faith, in good conduct, in generosity and in the knowledge of dhamma. One day Dhammika the lay follower questioned the Buddha on how a householder should live his life and the Buddha told him that a layman should keep five precepts, and he should live a life of chastity in peace with his wife. (You will find this account in Dhammika sutta of sutta nipatha).

When advising Sigalaka the young householder Buddha said: in five ways should a wife be ministered by her husband: by respecting her, by courteous behavior, by faithfulness, by handing up the authority of the house over to her and providing her, with needs, dresses ornaments and the like thus being ministered by the husband, the wife with love will fulfill her duties. She will treat the relations of both with hospitality, she will watch over the wealth he earns and she will do her duty with skill and hard work.

The Buddha said; as regards choosing a proper wife a man should be very careful and the wife too should determine to be an ideal one. When king Suddhodana told his son prince Siddhartha that it was the time for him to marry a suitable one, the latter wrote down the qualities that the girl he would marry should possess. Princess Yashodara was possessed of all those virtues. That is how their marriage took place.

On another occasion the Buddha told the quarrelsome daughter – in law of Ananthapindika that there were seven kinds of wives.

1. There is a certain wife who is hard – hearted and hating her husband. She loves other men and wastes what her husband earns she is called the wife the destroyer.
2. wife who Tries to filch a little out of what the husband earns - thievish wife.
3. wife who is greedy passionate , lazy careless, foulmouthed, full of wrath, hate, tyrannical family members – tyrannical wife .
4. Wife who is kind compassionate, cares for the husband as a - motherly wife.
5. Wife who is modest, obedient of her husband like a younger sister reverence her elder brother- sisterly wife.
6. wife who is pleased at the sight of her husband, highbred, virtuous ready to give her life to save her husband – friendly wife.
7. wife who is calm even when abused by the husband, patient true hearted bending to husband's will, loves her husband, as an obedient servant –servant like wife.

After explaining these seven kinds of wives the Buddha asked her to what kind out of these

seven, do you belong? She was convinced she said "Lord, after this I will behave to my husband and his family motherly, sisterly friendly and also as a servant like wife"

There are four kinds of couples living as Husband and Wife:

1. A Female hobgoblin lives together with male hobgoblin
2. A female hobgoblin lives with a male angel
3. Female angel and male hobgoblin
4. Female angel with a male angel.

The Buddha advised every husband and wife to live as an angelic couple, which will invite peace and success here and hereafter.

In the 6th century B.C., in feudal, polygamous India Buddha was the first to advocate monogamy and equal rights for women.

(This article is based on two Dhamma sermons given by Ven. Balangoda Anandamaitreya in UK in march 1986 and US in October 1990).

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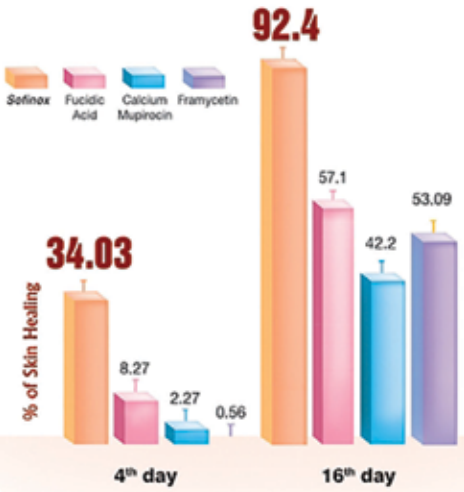

Ensures Quicker Skin Healing with Minimal Scarring

Ref 3) Study from Manipal Acunova KH Clinical Research Center

4) Baxter RM et al; J Biomed Mater Res A.2013;101(2):340-8

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People's Bank Launches Sri Lanka's First Ever Green Banking Initiative for the Youth through 'YES' Account

A pioneering initiative by the foremost banker to encourage Young Executive Savings

People's Bank recently announced the introduction of Sri Lanka's first ever eco-friendly savings product for the youth under the brand name Young Executives Server also commonly known as 'YES'. The 'YES' account which has sustained a major share of youth to promote savings across Sri Lanka, is now designed to offer paperless banking services starting 2nd of July 2015. The account is expected to encourage young generation to preserve the environment with minimal usage of paper, thereby leading the way for more sustainable future in times to come.

Under the concept 'Go Green with Yes,' accountholders will no longer receive any correspondence via paper but will be encouraged to obtain all their banking services electronically. This includes bank e-statements, increased use of debit and credit cards, availing themselves of banking services through mobile and internet banking and other means of paperless communication. Marking the Bank's commitment towards operating as an environmentally friendly organization, People's Bank hopes to popularize the theme further by converting most of its banking services to be electronically accessible.

Speaking about the introduction of this concept Deepal Abeysekara - Head of Marketing, People's Bank said, "Green Banking as a concept is a proactive and smart way of thinking with a vision to reduce the carbon footprint in the country. As a socially responsible financial institution, at People's Bank understand that to fully embrace this concept, a paradigm shift in thinking about business and finance is required and the introduction of a method to sustain a green environment has encouraged many of us to offer more digitally friendly services which not only is convenient but reduces the carbon foot print across the globe significantly. We warmly invite the youth of Sri Lanka to join with us and experience green banking, thereby securing a sustainable future for all."

To better engage with the youth about this concept, People's Bank has also introduced a Facebook page for 'YES' accountholders on which benefits of the 'YES' account will be highlighted along with up to date coverage on activities carried out by the Bank. The page will also serve to educate the youth on the green concept by providing them with real facts about paperless banking.

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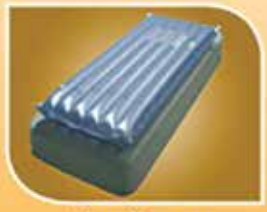

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Diagnostic Tool Kits

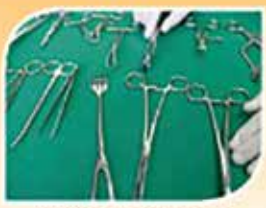
Bedpan & Urinal

Pen Torches & Knee Hamme

Rehabilitation Aids

Rehabilitation Aids

Urine Collecting Bag



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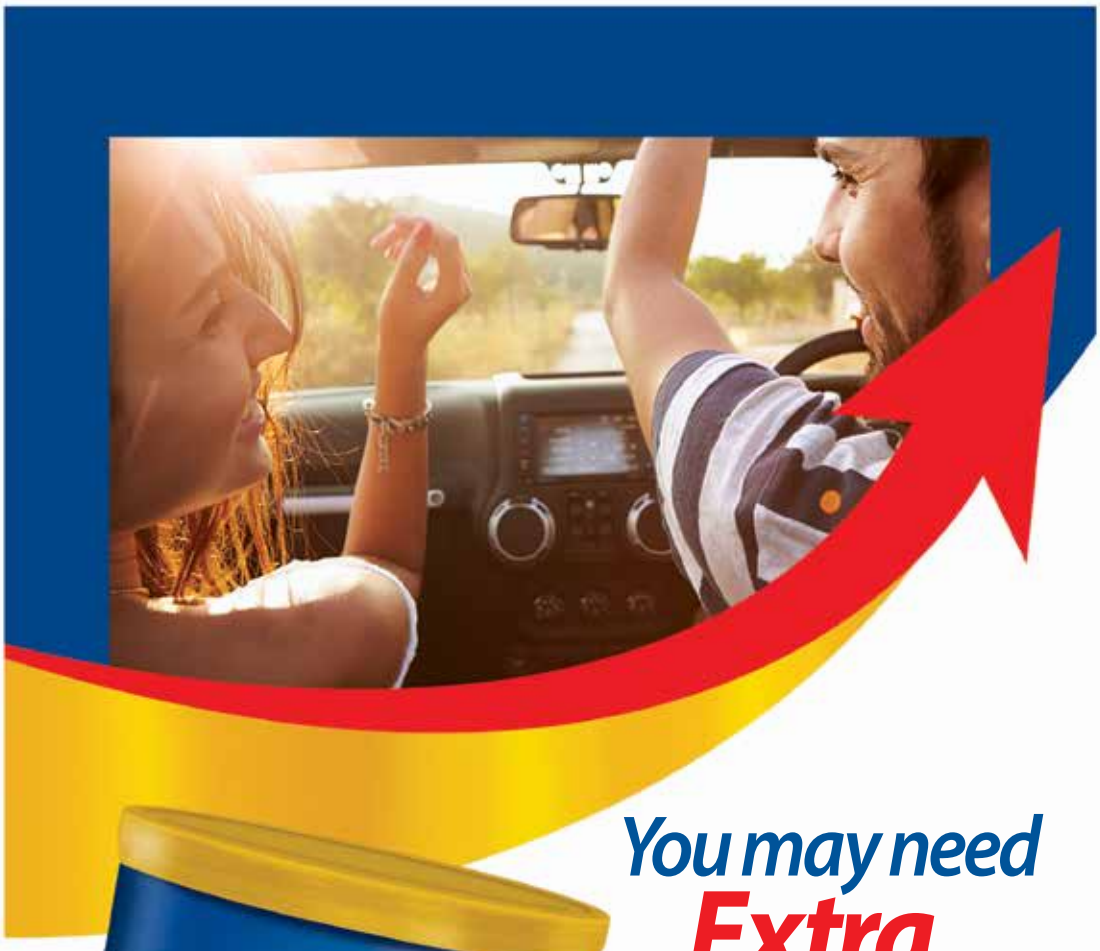

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