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Dr. S. Shek Dhavud
Organizing Secretary

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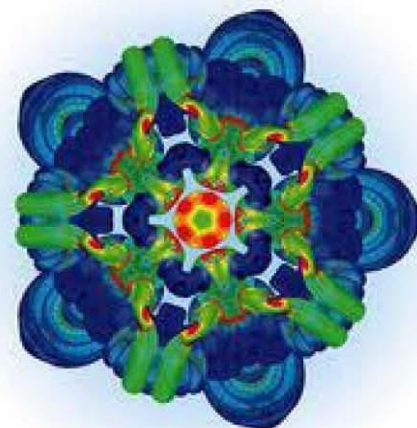
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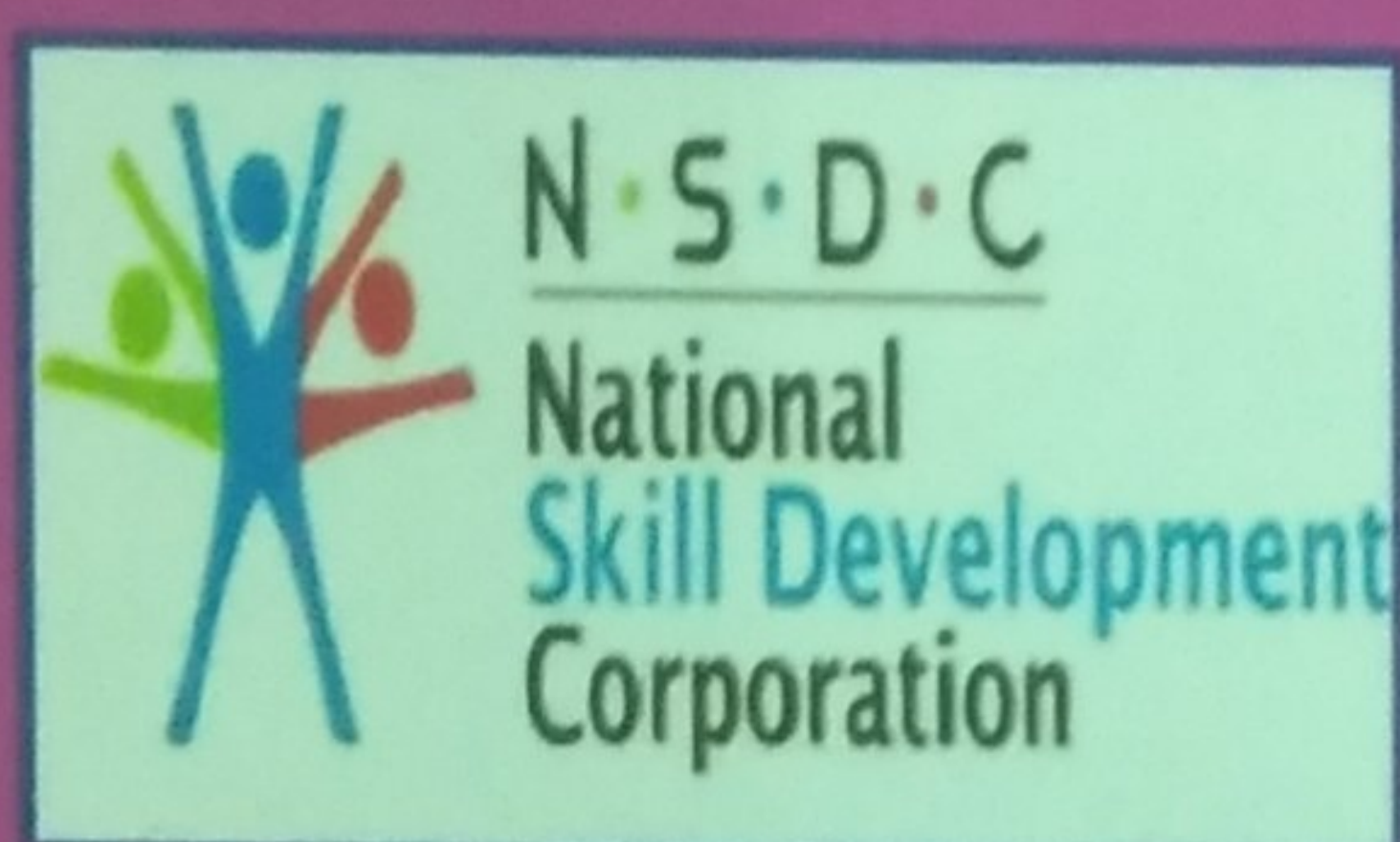
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FASHION TRENDS IN TEXTILE INDUSTRY



DEPARTMENT OF HOME SCIENCE

B.Voc. APPAREL MADE –UPS AND HOME FURNISHING

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FASHION TRENDS IN TEXTILE INDUSTRY

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RECENT INNOVATION IN MEDICAL TEXTILE

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Introduction

Textile products are omnipresent in the field of human hygiene and medical practice. Their use is based on a number of typical basic textile properties like softness and lightness, flexibility, absorption, filtering etc. Traditional applications include wound care products, diapers, braces, prostheses and orthoses, wipes, breathing masks, bedding and covers, ropes and belts etc.

Innovative textile products can both add significantly to effectiveness of medical treatments as well as patient comfort. At the same time, new medical textiles, may contribute to cost containment. Such innovative products:

- Provide new treatment options (textile based implants instead of scarce donor organs; artificial tissues, joints and ligaments),
- Speed up recovery after medical treatment (innovative wound dressings; light, Breathable orthoses/ prostheses)
- Enhance quality of life of chronically ill people (functional clothing)

There is the largest use of textile in the medical field. These are divided into four groups:-

a) Non-implantable: Material such as the bandage, orthopedic support, plasters etc.

b) Implantable material: Those materials which are implanted in the human body are called as Implantable medical textiles. They are artificial ligaments, veins, artery, hernia sheets, sutures, hip joints, artificial elbows etc.

c) Extracorporeal: The extra corporeal material is dialysis equipment, artificial liver etc. In case of kidney failure, the urine from blood is not separated which may affect adversely on the heart of a patient. Artificial kidney i.e. dialysis machine separates the unwanted fluid from blood with the help of hollow polyester fiber.

d) Hygienic products: All those products which are used for avoiding cross infections come under hygienic products. They are OT garments, surgical caps, gowns, face mask, gloves, bed sheet pillow covers, adult sanitary napkins etc.

Skin Grafting

Skin grafting is a surgical procedure that involves removing skin from one area of the body and moving it, or transplanting it, to a different area of the body. This surgery may be done if a part of your body has lost its protective covering of skin due to burns, injury, or illness. Skin grafts are performed in a hospital. Most skin grafts are done using general anesthesia, which means you'll be asleep throughout the procedure and won't feel any pain.

Artificial Skin Works in Normal Skin Layers

Skin is primarily made of two layers: the uppermost layer, the epidermis, which serves as a barrier against the environment; and the dermis, the layer below the epidermis which makes up roughly 90 percent of the skin. The dermis also contains the proteins collagen and elastin, which help give the skin its mechanical structure and flexibility. one commonly used artificial skin, Integra, consists of an "epidermis" made of silicone and prevents bacterial infection and water loss, and a "dermis" based on bovine collagen and glycosaminoglycan.

The Integra "dermis" functions as an extracellular matrix—a structural support found between cells that helps regulate cell behavior—that induces a new dermis to form by promoting cell growth and collagen synthesis. The Integra "dermis" is also biodegradable and is absorbed and replaced by the new dermis. After several weeks, physicians replace the silicone "epidermis" with a thin layer of epidermis from another part of the patient's body.

Uses of Artificial Skin

7. Treating burns: Artificial skin is commonly used to treat burn injuries, especially if the patient does not have enough healthy skin that can be transplanted to the wound. In such cases, the body cannot generate skin cells quickly enough to heal the damaged skin, and the patient's injury may become lethal due to significant fluid loss and infection. Artificial skin can thus be used to immediately close the wound and improve survival.
8. Treating skin disorders: Some artificial skin products like Apligraf have been used to treat chronic wounds on the skin, such as ulcers, which are open wounds that heal very slowly. They may also be applied to skin disorders like eczema and psoriasis, which often span a large portion of the body and may benefit from artificial skins laden with medicine, which can easily wrap around the affected area.

9. Research in consumer products and medicine: Aside from its uses in the clinical setting, artificial skin may also be used to model human skin for research. For example, artificial skin is used as an alternative to animal testing, which is often used to gauge how a cosmetics or medical product affects the skin. However, this testing may cause pain and discomfort to the animals and does not necessarily predict the response of human skin. Some companies like L'Oreal have already used artificial skin to test many chemical ingredients and products.
10. Artificial skin may also simulate skin for other research applications, including how skin is affected by UV exposure and how chemicals in sunscreen and medicines are transported through skin.

Types of Artificial Skin

Artificial skins mimic either the epidermis or dermis, or both epidermis and dermis in a “full-thickness” skin replacement.

Some products are based on biological materials like collagen, or biodegradable materials not found in the body. These skins can also include a non-biological material as another component, such as Integra's silicone epidermis.

Artificial skins have also been produced by growing sheets of skin live skin cells taken from the patient or other humans. One major source is the foreskins of newborns, taken after circumcision. Such cells often do not stimulate the body's immune system—a property that allows fetuses to develop in their mother's wombs without being rejected—and hence are much less likely to be rejected by the patient's body.

Artificial Skin Differs from Skin Grafts

Artificial skin should be differentiated from the skin graft, which is an operation in which healthy skin is removed from a donor and attached it to a wounded area. The donor is preferably the patient them self, but could also come from other humans, including cadavers, or from animals like pigs. Artificial skin is also "grafted" onto a wounded area during treatments. Improving artificial skin for the future. Though artificial skin has benefited many people, a number of drawbacks can be addressed. For example, artificial skin is expensive as the process to make such skin is complex and time-consuming. Furthermore, artificial skin, as in the case of sheets grown from skin cells, can also be more fragile than their natural counterparts.

As researchers continue to improve on these, and other, aspects, however, the skins that have been developed will continue to help save lives.

Conclusion

In medical textile is using artificial skin technology to pioneer organ reconstruction it is hoped that this is so called as engineered structural tissue. Now a day's replace plastic and metal prostheses currently used to replace damaged joints and bones. Ears and nose will be reconstructed by seeding cartilage cells on polymer mesh. The regeneration of breast and urethral tissue is under study in the laboratory through this technology it is possible that one day liver, kidney and even heart will be grown for human tissue.

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MEDICAL VALUE OF TEXTILES

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Introduction

Textile material are very important in all aspects of medicine and surgical and the range and extent of application to which these material are used in reflection of their versatile. Medical Textiles is a branch of Technical Textiles. Medical textiles are textile products and constructions for medical applications. Depending upon the usage, the medical textiles are classified as Healthcare and Hygiene products, Extracorporeal devices, Implantable materials and Non-implantable material .surgical gown places an important role in field of medical textile as it have more demand and it's is necessary one. It is made from cotton, polyester, polypropylene, viscous these materials by the non woven techniques

Non-woven fabric is a fabric-like material made from staple fibre and long fibres, bonded together by chemical, mechanical, heat or solvent treatment. The term is used in the textile manufacturing industry to denote fabrics, such as felt, which are neither woven nor knitted.

Classification of Medical Textiles

Health-care or healthcare is the maintenance or improvement of health via the prevention, diagnosis, treatment. E.g. Surgical clothing, sanitary napkins, baby diaper, adult diapers etc.

Extracorporeal: Textile materials are used in a mechanical organ such as artificial kidney (dialysis), artificial livers, artificial lungs (blood oxygenation) for blood purification are called as extracorporeal devices. Recovery or cure of disease, illness, injury, and other physical and mental impairments in people.

Implantable materials implantable medical textiles is that the materials are use in effecting to the body if it is wound closure (sutures) or replacement surgery like vascular graft and artificial ligaments. There are many shapes and sizes, for duplications as found in human body. E.g. Sutures, hard tissue, cardio vascular implants.

Non implantable materials are used for external applications and may or may not contact with the skin. This includes wound care, bandages, plaster, pressure garments, orthopaedic belts etc. This paper discusses the role of bandages, types of bandages, wound care and wound care products. E.g. bandage, wound cover, dressing, plasters

Fibres used for medical and healthcare applications

Textiles materials that are used in medical applications include fibres, yarns, fabrics and composites. Depending upon the application, the major requirements of medical textiles are absorbency, tenacity, flexibility, softness and at times bio stability or biodegradability.

Fibres used in medical field may vary from natural fibre such as cotton, silk, regenerated wood fluff (absorbent layer), to, manmade fibres like polyester, polyamide, polyethylene, glass etc. Fibres used in medical textile are 1 cotton for surgical clothing, gown, beddings, sheet, pillow Cover, surgical hosiery Viscous is used for caps masks, wipes, polyester for gowns, mask Surgical covers, drapes, blanket, cover stocks 4 Polyamides for surgical hosiery etc...

A number of crucial issues regarding medical products in general and healthcare and hygiene products in particular have been identified and debated amongst clinicians, environmentalist, drug companies etc. for a long time. The issues such as Natural against chemical or manufactured fibres, Disposable against reusable or durable fabric, Antibacterial or antimicrobial fibres against finishes or coatings for infection control, Methods of disposal of clinical waste i.e. landfills against incineration and other forms of medical and clinical waste disposal, There is general move towards an increased use of natural polymers that are biocompatible, biodegradable and nontoxic

The use of textile materials for medical and healthcare products can be classified into following main areas

- Barrier material (for infection control)
- Bandaging & pressure garment
- Wound care material
- Hygiene material
- Implantable material (sutures, art. Joints etc.)
- Extra Corporal devices (like art. Kidney etc.)

Requirements of textile material for medical applications

- Biocompatible
- Good resistance to alkalis, acids and micro-organisms
- Good dimensional stability
- Elasticity Free from contamination or impurities
- Absorption / Repellent
- Air permeability

Surgical gown making process

A surgical gown is a class II medical textile used to reduce the transfer of bacteria from the skin of the surgeon to the air in the operating room, as well to protect the surgical staff from contact with bodily fluids. Gowns are most often constructed from fibres such as polypropylene and polyester, by using a nonwoven technique. These fibres are relatively too cheap to make but produce a high quality product. Typically, a gown uses the nonwoven technique known as SMS which stands for spun bond, melt blown, spun bond. In some cases the SMS process can include more than one melt blown layer between the outer spun bond layers. A few companies that manufacture surgical gowns include: Medline, 3M, Precision Fabrics Group, and Kimberly Clark.

The melt blown portion of the material is processed by using high pressured air that blows molten thermoplastic resin (usually polypropylene chips) from an extruder die tip onto a conveyor or a take-up screen to form a fine fibrous and “self-bonding” web. The melt blown middle layer of a surgical gown serves as protection against bodily fluids, fibres, dirt, dust, and grease, however, the surgical gown usually has a chemical properties

The nonwoven fabric is finished with the different percentages of antibacterial, antistatic, and Fluor chemical finishes usually in a single bath, using the pad-dry-cure method. In the pad-dry-cure method, the fabric is immersed in the bath of liquid solution and then squeezed through rollers to remove excess liquid. This process is completed twice to ensure even distribution across the fabric samples

Disposable gowns are meant to be used during one surgery and then thrown away. Disposable gowns are usually cheaper due to the SMS construction with a nonwoven material. Reusable gowns however, tend to be made a little differently as they have to

resist a lot more wear. Various reusable gowns made by multiple companies will have differences in that some are thicker due to more melt blown layers in the centre, some have extra panelling added to the abdominal and arm regions for added protection, others are have different levels of performance (1 to 4) depending on surgery it will be needed for. Reusable gowns will have a different chemical exterior to resist degradation after multiple washes. Some gowns may be reused up to 75 times. These however, may be much more expensive. A hospital will have to assess their costs and decide whether disposable or reusable gowns best fit their practice.

Advantage & Disadvantages of Surgical Gowns

Advantages:

- Limits bodily fluid transfer due to finishes
- Limits bacteria near surface of surgery
- The colour allows the surgeon to see if fluids are on the gown
- Production is fast and relatively cheap
- Dependable structure in regards to tensile strength

Disadvantages:

- Gown could be too loose if not the correct size
- A surgeon needs help tying the gown in the back
- Not very fashionable
- Limited breathability
- Cause a lot of medical waste due to disposing of the gowns
- Cost can be high depending on type of gown needed

Conclusion

Medical textiles plays a major role in the field of surgery well as Medicare .the incorporation of various textile material with organs helps for the transplantation and other means the textile industry's innovation and the growth of medical textiles has paved way for the well being of the human as well as society

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RETAILING AND E-COMMERCE SKILLS FOR GARMENT INDUSTRY

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E-commerce is an exemplary concept in the future of textile and apparel industry. It plays a major role in the present scenario of textile and apparel industry. It is also very significant that the future of textile and apparel industry is complete only with E-commerce. Diverse e-commerce applications are being implemented in the textile and apparel supply chain. Information and communication technologies (ICTs) have the capacity to make extravagant amounts of information available to users located in various parts of the world. One application of these technologies is in the development of e-commerce to support electronic trading. Categories of E-commerce Business-to-business (B2B), Business to- consumer (B2C), Business-to-government (B2G), Consumer-to-consumer (C2C), Mobile commerce (m-commerce). In India, e-commerce portals have boosted sales of regional apparel. Right from special variants of ethnic wedding dresses to traditional costumes, the onset of shopping in the digital age has brought India's handicraft heritage into the limelight. There are many traditional garments in the country whose sales were originally limited to the geographical area where the weaving community was located. However, nowadays even small and medium enterprises can get an e-commerce portal built and offer their products to a larger

audience. The rise of e-commerce is one of the biggest reasons for traditional and regional apparel becoming trendy. For instance, a silk saree was once appreciated by only a select few. However, when it is marketed on an e-commerce portal, a visitor is bound to come across the name, even if it is by accident, thereby increasing the level of awareness among the popular about this kind of saree. Awareness means that there is a potential customer base that can be tapped if needed. Apparel, accessories, jewellery, footwear, etc., nothing becomes popular until and unless younger men and women are talking about it.

Key words: E-commerce, Portals, Business, Consumer, Textile, Apparel.

A STUDY ON PATTERN DRAFTING AND 3D MODELING USING ANIMATION SOFTWARE FOR APPAREL AND FASHION DESIGNING

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The old fashioned pencil sketches, pattern construction are replaced by computerized technology and CAD in the textile sector. Design is the process of selection of all visual elements used by artists to express themselves. These elements are shape, value, texture, color, line, space and mass. Computer-Aided Design is the use of computer systems to assist in the creation, modification, analysis and optimization of a design. CAD software is used to increase the productivity of the designer, improve the quality of design, improve communications through documentation, and to create a database for manufacturing. The main objective is to study about 3D modeling, pattern drafting and to develop a tool in animation software that enables us to visualize the fit and design of the garment before construction. The fit, cloth rendering, color, texture and development of a model is studied in this research. The study is carried out with Autodesk Maya, an animation software through which Ncloth tool is developed and visualized the 3D model ramp show.

Keywords: Computer Aided Designing, Software, 2-Dimensional, 3-Dimensional, Visual elements, Autodesk Maya, Ncloth.

DEVELOPMENT OF ANTIBACTERIAL EFFICACY OF PUMPKIN SEED OIL (CUCURBITA PEPO) ON COTTON FABRIC

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Textiles are classified according to their component fibers into silk, wool, linen, cotton, and such synthetic fibers. Mechanical, electrical, thermal properties offer ability to perform for technical textiles application. Cotton is known for its versatility, performance and natural comfort and it is made up of physical and chemical properties. Pumpkin seeds, also known as pepitas, are edible and nutrient-rich. The Glycolic acid (hydroacetic acid or hydroxyacetic acid); chemical formula $C_2H_4O_3$ (also written as $HOCH_2CO_2H$), is the smallest α -hydroxy acid (AHA). This colorless, odorless, and hygroscopic crystalline solid is highly soluble in water that is used for making various skin care products. The glycolic acid and pumpkin seeds are used as Face masks which tightens skin and are best suited for acne prone skin. This study is carried out to finish cotton fabric with glycolic acid and cucurbita pepo and applied to acne prone skin and tests are carried out. The masks are given to people with acne and pimples for definite days.

Keywords: Medical Textile, Cotton, Cucurbita pepo, Glycolic acid. Pumpkin, Properties, Performance

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N. M. KHAJA MIAN ROWTHER - A DISTINGUISHED BUSINESSMAN AND EDUCATIONALIST OF TIRUCHIRAPPALLI

Dr. J. AUGUSTIN

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Education creates awareness and provides enlightenment in the minds of the people. In British India, the education was always being fruit to be purchased, which was gathered by the rich and upper class people. Castes classification and its diversity played a major role in restriction of Education to the poor. There was deep decrease in number of students who continued their studies till middle grade. The Christian Missionaries made an impact to certain extent for the benefit of poor. Apart from the Missionaries and Provincial Government, there are number of Individuals who sacrificed their life and wealth for betterment of the poor and needy people through their Educational services. After the independence of India, the Union Government and the state Government began to follow the policy of 'Secularism'. They shaped their policy towards the promotion of education to the people of India on that basis. However the Government of India extended minority rights to the minority religious groups of India to establish and govern their own educational institutions. The percentage of admission hitherto given to the Muslim students in the Government colleges was reduced considerably. The Government Muslim College at Madras was renamed as Government Arts College. Under these circumstances the Muslim Community awakened and began to establish educational institutions for the benefit of their society. In Tiruchirappalli district, the cause

of the education was served by the late Hazrat Syed Murthuza, late Haji N.M. Khajamian Rawther and late Haji M. Jamal Mohammed Sahib who detemiined to meet the challenges in establishing Muslim educational institutions and got great success in their attempts.

Early Life

The ancestors of N M Kajamian Rowther was moved from Nagalapuram and settled in Tiruchirappalli in 1850. N M Kajamian Rowther born in 1880 to N Mohamed Mian Rowther (called Nana Moona Family). His Grandfather Nallakani Rowther was doing leather business and lived with enormous wealth'. He got his elementary education up to grade 5 through High school run by Madras Christian College. The curiosity and eagerness stimulated him to gain knowledge in languages of Tamil, English, Urdu and Arabic. He was fascinated by the Sufi songs sung by number of Sufi poets. His knowledge in Islamic concepts and verses of Quran make all those made conversation with him astonished. He was a born genius who possessed qualities of noble character. His profound knowledge, hard work, religious faith and patriotism had elevated him to a high position in the society. Traditionally his family was connected with tannery work. He continued his father's profession of tanning. In his business he adopted novel methods and succeeded in his endeavor. It was said that the



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Dr. K. Damodaran

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resources, such as soil and plants. The efforts to conserve resources can start with utilizing sustainable practices. Leaving some of the trees in a forest to naturally die and decay. This not only leaves the cover needed for the soil and other vegetation, but it helps to provide the nutrients that the soil needs to remain fertile. Other solutions include:

- Proper waste disposal that focuses on treating waste and disposing it in the safest manner possible.
- Reusing materials to reduce the need for harvesting of resources. Products that are not reusable can likely be recycled.
- Reducing the usage of non-biodegradable materials, such as plastic shopping bags. The simple act of switching to a reusable cloth bag for groceries can help cut down on the need for non-biodegradable materials.
- Organic farming can reduce the usage of pesticides and insecticides. Non-gardeners can help by buying organic food.
- Bioremediation is another very promising land-cleaning technology, in which microbes of various kinds eat and digest waste and turn it into safer end-products.
- Phytoremediation is a similar concept but involves using plants, such as willow trees, to pull contaminants from the soil.

Conclusion

The pollution of land has calamitous consequences especially concerning the survival of animals and humans and the quality of soil and water. The negative consequences of land pollution can be greatly reduced with the cooperation of everyone. By making a conscious effort to contribute to a safer environment, the health and well-being of all can be protected. New technologies will almost certainly make it easier to "recycle" polluted land in future.

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REALITY OF INDIAN HEALTHCARE SYSTEM

Dr. A.J. Haja Mohideen

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In terms of economic growth and growing international influence, India is emerged as a fast becoming a global super power. The healthcare sector is not only growing rapidly but also seems to have significant potential. It is today the second largest service sector employer in the country, providing jobs for about 4.5 million people directly or indirectly. The Indian healthcare industry is witnessing growth at rapid pace and it is expected that the sector will touch \$238.76 billion by 2020.

Health expenditure in India is dominated by private spending. This shows that inadequate public spending is a constant unfortunate feature of the Indian economy. India still lags behind in delivering public services, one of them being healthcare. Public health expenditure accounts for less than 1.3 per cent of GDP compared to 3 percent of GDP for developing countries and 5 for high income countries. The private healthcare sector in India accounts for over 75 percent of total healthcare expenditure in the country and is one of the largest in the world.

Rising income level, greater health awareness, increased precedence of lifestyle diseases and improved access to insurance would be the key contributors to growth. The Government of India aims to develop the country as a global healthcare hub. It has created the National Health Mission (NHM) for providing effective healthcare to both the urban and rural population. The government is also providing policy support in the form of reduced excise and customs duty, and exemption in service tax, to support growth in healthcare.

However, despite the growth, the Indian healthcare industry is facing a plethora of challenges. There are some key roadblocks in the development of Healthcare sector.

Foreign Investment:

The concept of inclusive growth stresses the need for equitable distribution of services rendered by the government. Neo liberal reforms necessitated the integration and opening up our economy with

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