Name : Dr.G. Malarvizhi

Designation : Assistant Professor

Department : Costume Design and Fashion

Qualification : M.Sc., M. Phil., Ph. D.

Experience : Teaching: 11 Years Research: 11 Years

Area of Specialization(s): Technical Textiles- Finishes**,** Product development, Home Furnishing

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Academic Qualifications

Degree	Branch	Institution / University Name	Year of Graduation
Ph. D.	Textile Technology	Bharathiar university	2022
M. Phil.	Costume Design and Fashion	Park's College of Arts and Science	2013
M.Sc.	Textiles and Fashion Apparel	Avinashilingam University for Women	2009
B.Sc.	Costume Design and Fashion	Park's College of Arts and Science	2007

Additional Qualifications

Diploma / Vocational / Certification	Area of Specialization	Institution / University/ Agency Name	Year
Certificate	Textile Product Design and Development	NPTEL	2022
Certificate	Needle work and Dress making/ Embroidery	Tamil Nadu Technical Education and Training Centre, Cuddalore	2019
Certificate	Outcome Based Pedagogic Principles For Effective Teaching	NPTEL	2018
Certificate	The Pattern Cutting And Making For Beginners- Luxury Fashion	UDEMY	2015
Certificate	Photoshop Sketching made Easy	UDEMY	2015
Certificate	The Fashion Experience	UDEMY	2015
Certificate	Basic Life Support	UDEMY	2015

Diploma	Advance Software Technology (DAST)	CSS	2009
Certificate	Tally Financial Accounting Program(TFAP)	CSS	2009
Certificate	Garment Merchandising	Park's College of Arts and Science	2005
Certificate	CAD - Pattern Making and Grading	Park's College of Arts and Science	2005

Projects Completed

Project Title	Agency	Amount (INR)	Duration
Formulating and Educating about Low Cost Herbal Finished Baby Nappy Pads Among the Self Help Group in Tirupur District	UGC - SERO	3,65,000	2 Years Completed on 31/03/2019
Herbal Finished Baby Diaper (Nappy Pads)to Reduce Rashes	Tamil Nadu State Council For Science And Technology	5,000	Six month Completed on 12/6/2009

Research Publications (Indexed)

International:

- Dr.G.Malarvizhi, Aarthi Clara, Development of Herbal Finished Sanitary Napkins Using *Terminalia Chebulan*, Journal of Emerging Technologies and Innovative Research (JETIR), ISSN NO:23495162 , Volume 10, Issue 5, pp 657- 666, May 2023.
- Dr.G.Malarvizhi, V.Viji, Design and Development of Laptop Cooling Pad with Ceramic Nonwoven Fabric, International Peer Reviewed refereed Journal open access journal (IJRAR) ISSN: 2348- 1269, Volume.10, pp. 457-464, Issue 2, April 2023, Impact factor 7.17, UGC NO: 43602(19)
- Dr.G.Malarvizhi, Sowmiya.S, Development of Medical Gauze using Bamboo Yarn, International Journal of Advanced Research and Innovation Idea in Education (IJARIIE), ISSN NO:2395-4396,Volume 9, Issue 2, pp. 2640-2648, April 2023, ISO 9001:2008, Certificate of National Science Library (NSL).
- Dr.G.Malarvizhi, Cynthia Sherly.J, Development of Aroma and Anti-Bacterial Finished Socks, Journal of emerging technologies and innovative research (JETIR) ISSN:2349-5162, Volume.10, pp.457-464, Issue 4, April 2023, Impact factor 7.95,UGC NO: 63975.

- Dr.G.Malarvizhi, Swathi.S, Development of Knee Band and Thyme Oil Finish, International Journal of Emerging Technologies and Innovative Research (JETIR) ISSN:2349-5162, Volume.10, pp.560-571, Issue 4, April 2023, Impact factor 7.95,UGC NO: 63975
- Dr.G.Malarvizhi, L.Santhiya, Development of Ice dye Technique in Home Textile, International Journal of Research and Analytical Review, ISSN-2349-5138 Volume 10, pp.162 -17, Issue 2, April2023 Impact factor 7.17, UGC NO:43602
- Dr.G.Malarvizhi, V.Sowmiya Thanganayaki, Development of Anti-Pesticide Finished Jute Apron for Farmers. International Journal of Enhanced Research in Science Technology & Engineering (IJERSTE), ISSN No: 2319-7463, in the Vol. 12, pp.150-157, Issue 3, March, 2023, Impact Factor: 7.957, UGC NO: 7618.
- Dr.G.Malarvizhi, M.Nivetha, To Create Awareness about unrevealed women leader and unrevealed women leaders and their servicing incidents through digital printing International Journal of Enhanced Research in Science, Technology &Engineering ISSN:2319-7463,Vol.12 Issue-3, pp.137-145,March 2023, Impact Factor:7,957, UGC NO:7618.
- Dr.G.Malarvizhi, M.Renoj Fathima, Development of Women Kurta with Anti-bacterial and UV protection. International Journal of Advance Research and Innovation Ideas in Education ISSN (O)-2395-4396, Volume 9, issue 2, pp.862-870, March-2023. Impact Factor: 4.06. Approved by Central Government.
- G. Malarvizhi, Development of Eyemask using Tabernarmontana Divaricata, International Journal of Creative Research thoughts, ISSN : 2320-2882, 7.97 Impact factor, Volume 10 Issue 9, September 2022, UGC Approved Journal No: 49023(18).
- G. Malarvizhi, Development of Face Mask using Glycyrrhiza Glabra, International Advanced Research Journal in Science, Engineering and Technology, Volume 8, Issue 12, December 2021, Impact Factor 7.105,Tejass Publishers.
- G. Malarvizhi, T.R.Indumathi, R.Haripriya, To Develop Facial Nonwoven Fabrics Infused with Herbal Extract for the Treatment of Acne (Pimples), International Advanced Research Journal in Science, Engineering and Technology, Volume. 8, Issue 6, 26 Jun-21
- G. Malarvizhi, Development of Wound Dress Using Natural Fibers, International Online Conference Advances in Textile, Fashion and Crafts ATFC 2021, National Institute of Fashion Technology, Jodhpur, Rajasthan, India, 22-Mar-21 to 24 Mar-21.
- G. Malarvizhi, Evaluating the Natural Fibre Reinforced Polymer Biocomposite for the Development of Novel Wound Dressing Materials, International Journal of Research in Ayurveda and Pharmacy, 8(3): 2017, pp. 1-6, IJRAC2.

- G.Malarvizhi, Investigating the Impact of Plant Fibres in Increasing the Strength of Concrete International Journal of Applied Environmental Sciences ISSN 0973-6077 Volume 12, 10- Nov-17, pp. 1757- 1767 (Google Scholar), Impact factor 1.47.
- G. Malarvizhi, Development of Herbal Finished Baby Diapers with Bamboo Fiber**,** Best: International Journal of Humanities, Arts, Medicine and Sciences (Best: IJHAMS), ISSN 2348-0521 vol. 3, Issue 2 ISSN 2348-0521, Vol. 3, Issue 2, 24-Feb-15, pp.41-46 BEST Journals, (Google Scholar),Impact factor 3.0198.

Book Chapters

- G.Malarvizhi, Extraction of Bast Fiber from *Abutlion indicum* Plant in the book - Recent Trends in Fashion Designing, Textile and Technology with ISBN Number 978-93-93622-06-8, March 2022.

Consultancy

Nature of Consultancy	Client	Amount	Completion Status
Kolam	Inter departments	Unpaid	Completed
Sahana label	Mrs.Karthika	1100	Completed
Cloth bag for DBT Star Conference	Mrs.S. Gowri	4000	Completed

Presentations in Conference

- A Review Article on Kasturi Cotton For Sustainability, Sardar Vallabhbhai Patel International School of Textiles and Management in connection with National Conference on "Brand Promotion Strategies of Kasturi Cotton", 1st October 2022.
- Development Of Wound Dress Using Natural Fibre, International Online Conference on Advances in Textile, Fashion and Crafts ATFC -2021, National Institute of Fashion Technology, Jodhpur, Rajasthan, India, 22-Mar-21 to 24-Mar-2021.
- Investigating the Impact of Plant Fibres in Increasing the Strength of Concrete, International conference on Advancement and Applications of Technology in Food and Textile Industry, Mother Teresa University, Madurai, 22-Jan-19.
- Development of Novel Wound Dressing Materials Using Natural Fibre Reinforced Polymer Bio composite, Recent Developments in Textile and Fashion (NCRDTF) National Conference, PSG College of Arts and Science, Coimbatore, 19- Feb-18.
- Investigating the Impact of Plant Fibres in Increasing the Strength of Concrete, Recent Developments in Textile and Fashion (NCRDTF) National Conference, PSG College of Arts

and Science, Coimbatore, 19-Mar-18.

- Textile Potential Of Fibres Extracted From Abutilon Indicum (L) (Thuthi), Eco-Textiles and Green Consumerism, ETGC-2016, UGC sponsored National Conference, Textile and Fashion Apparel, Avinashilingam University for Women Coimbatore, 09- Mar-16 and 10-Mar-16.
- Application of *Abutilon Indicum* (L) (Thuthi) In Textiles, International Conference, Sri Jayendra Saraswathi College of Arts and Science, Coimbatore, 30-Sep-15.
- Study On Textile Potential Of Fibres Extracted From *Abutilon Indicum* (L) (Thuthi),Emerging Trends In Textile Industry- New Innovations, International Conference organized by department of Textile Technology, SSM College of Engineering and Arts and Science , Komarapalayam,14-Aug-15.
- Apparel& Production – An Overview, International Conference conducted by Mother Teresa University, Kodaikanal, Hindusthan College of Arts and Science, Coimbatore,28-Aug-14.
- Development Of Herbal Finished Baby Diapers With Bamboo Fiber, Emerging trends in Textiles, Apparel productions & Management, UGC sponsored National level Conference, Bharathiar University Coimbatore, 27-Feb-14.
- Herbal Finished Baby Diaper to Reduce Skin Rashes, Art in Everyday Life, UGC sponsored National Seminar at Seethalakshmi College, Tiruchirappalli, 5-Dec-13.

Participation in Conference

***National*:**

- Development of Nonwoven material for interior application, Shortlisted participant in
- Startup TN TEXATHON 2.O at AIC-NIFTTEA College.Tirupur,4-Jan-2023.
- Development of Anti -Pesticide finished Jute Apron for Farmers, Shortlisted participants in Startup TN TEXATHON 2.O at AIC-NIFTTEA College.Tirupur,4-Jan-2023.
- Kasturi Cotton and its Sustainability, National conference at Sardar Vallabhai Patel school oftextile, Coimbatore, 1st October 2022.
- Sustainability in Textiles Funded by DST- Purse Phase II National Level Seminar, Department of costume Design and Fashion, Bharathiar University, 20 and 21- Feb- 18.
- Confederation of Indian Textile Industry (CITI), New Delhi, Natural Fibre Conclave Sustainability, Efficiency and Competitiveness, 22 – Jul- 15.
- Recent developments in Weaving preparation, Weaving Machinery, Process and Products, Kumaraguru College of Technology, Coimbatore, 22- Aug-14.
- Recent Development in Machinery, Process and Product in Nonwovens, Kumaraguru College of Technology, 31-Jul-13.
- ATNT 2008- Advances In Textiles, Machinery, Nonwoven and Technical Textiles,organized by

Avinashilingam University for Women, Coimbatore and Texas Tech University, USA, 16 -Jul- 08.

- Phase Change Material, Fibro fest 08 Poster, Kumaraguru College of Technology, 12- Sep-08.
- Advances In Testing Of Textile Materials (ATTM 08), Kumaraguru College of Technology, Coimbatore, 5- Mar- 08.
- SDC-The Society of Dyers and Colorists Education Charity SDC-EC Young talent search 2nd national student Competition Color and Textile 2008- Mumbai, 3- Jan-08.
- Recent development in Machinery, Process and production in Nonwovens, Kumaraguru College of Technology, 31- Jul- 13.

Participation in Workshop

- Nine Day Online training programme on Environmental Sustainability and research Ethics, Department of Textiles and Clothing, School Of Home Science, UGC Stride Sponsored Training Programme, 03-Feb-21 to 11-Feb-21.
- Five Day Innovation Series on Patent Search and Filing, Turnip Innovations, 16- Feb-21 to 20-Feb-21.
- Intellectual Property Rights and Innovations, PSGR Krishnammal College for Women, Coimbatore, 27- Oct-18.
- Health Risk Assessment of Nano Particles, Dr. N.G.P. Arts and Science College, Coimbatore, 05- Dec-18 to 07- Dec- 18.
- Fashion Illustration, Department of Costume Design & Fashion at Dr. N.G.P. Arts and Science College, Coimbatore, 27-Sep-18 to 28-Sep-18.
- Fashion Forecasting Techniques And Tech Pack Conception For Fashion Designers, Tirupur MSMEs Cluster, NIFT-TEA College of Knitwear Fashion, Tirupur, 29-Jul-13 to 30-Jul-13 and 1-Aug-13 to 3-Aug-13.

Participation in Faculty Development Programme

- Online Faculty Development Programme on Textile product design and development. NPTL-AICTE, Jan-April 2022.
- Online Faculty Development Programme on Research Methodology and Pedagogy for Tertiary Education, 15-Jun-21, at Dr. N.G.P. Arts and Science College, Coimbatore.
- NACC Revised Accreditation Framework and OBE Assessment Methodology, 27-May 19- 02-Jun-19 at Dr. N.G.P. Arts and Science College, Coimbatore.
- Quality measures in Higher Education at Dr. N.G.P. Arts and Science College, Coimbatore, 03 Dec-18 to 09- Dec-18.
- Faculty Development Program, Department of Food Science and Nutrition, Dr. N.G.P. Arts and Science College, Coimbatore, 29-Sep-16.

- Discover Teacher in you, Hindusthan College of Arts And Science, Coimbatore, 25-Jan- 14.
- Communication Skill, Hindusthan College of Arts and Science, Coimbatore, 14-Dec-13.
- Faculty Development Program, Park's College of Arts and Science, Tirupur on 8-Sep-12.

Conference / Seminar / Workshop Organized

- Coordinator for the Designer Contest Celestial 2023, Dr.N.G.P Arts and Science College 12-Jan- 2023
- Coordinator for the Designer Contest Celestial 2019, Dr. N.G.P Arts and Science College 10- Jan- 20.
- Coordinator for the Designer Contest Celestial 2018, Dr. N.G.P Arts and Science College 19- Dec- 18.
- Organizer National Seminar, National Seminar on Nonwovens: Materials, Production Technologies & Application, Dr. N.G.P Arts and Science College 14-Dec-18
- Organizer National Conference – NEXTILES - Technical Textiles – Recent Innovation in Fiber to Fashion, Dr. N.G.P Arts and Science college 02- Mar-18.
- Coordinator for the Designer Contest, Celestial 2017, Dr.N.G.P Arts and Science college 20-Dec-17.
- Organizer National Conference – NEXTILES – Market Potentials and Challenges in Apparel Industry, Dr.N.G.P Arts and Science College, 23-Feb-17.
- Coordinator for the Designer Contest, Celestial 2016, Dr.N.G.P Arts and Science College, 23- Dec-16.
- Organizer, Liquid Embroidery- workshop, Dr.N.G.P Arts and Science College, 19- Aug16.
- Organizer, Workshop on Adobe Photoshop &Adobe Illustrator, Dr.N.G.P Arts and Science College, Coimbatore, 10-Jun-16 and 11-Jun-16.
- Organizer for the Summer Camp, KIDOODLE, Dr.N.G.P Arts and Science college 03-May-16 to 6- May-16.
- Organizer, Seminar, Recent Trends and Opportunities in Fashion and Apparel Sector, Dr.N.G.P Arts and Science College, 11-Feb-16.
- Coordinator for the Designer Contest, Celestial 16, Dr.N.G.P Arts and Science college 28- Jan-16.
- Organizer for the Summer Camp, ECO CRAFT, Dr.N.G.P Arts and Science College, 4-May-15 to 7- May-15.
- Coordinator for the Designer Contest, Celestial 2014, Dr.N.G.P Arts and Science college 22- Dec-14.

Invited Speaker / Session Chair- Conference / Seminar / Workshop

- Invited Chief Guest, "Fashion Eilat 2023 Designer Contest and Bulletin Release", Tirupur Kumaran College for Women, Tirupur, 05-April-2023.
- Invited Resource Person "National Seminar on Sustainability Management Strategies in Fashion Business", Ambiga College of Arts and Science for Women, Madurai, 25-March-2023.
- Invited Speaker, Webinar on "Impact of Covid'19 on Fashion industry", Tirupur Kumaran College for Women, Tirupur, 13-Mar-21.

Editorial / Review Board Member

- Reviewer, Proceedings of NEXTILES 18, ISBN 978-93-5300-922-9, 02-Mar-18.

Awards / Honors

Awards / Honors	Agency / Institute	Year of Award
Dr. NGPASC Sri Nalla Gounder Research and Innovation Awards for **Best Work Paper**	Basic and Applied Science, Dr. N.G.P Arts And Science College	2021-2022
Dr. NGPASC Achievers Day-2021 Award for **Best Faculty**	Basic and Applied Science, Dr. N.G.P Arts And Science College	2020-2021
Dr. NGPASC Nalla Gounder Research Award for **Best Work Paper**	Basic and Applied Science, Dr. N.G.P Arts And Science College	2018-2019
Dr.Thavamani D. Palaniswami Award for **Best Work Paper**	Dr. N.G.P Arts And Science College	2014-2015

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Confirmation Letter

To,
Dr. G. MALARVIZHI
Published in : Volume 10 | Issue 5 | 2023-05-09

Subject: Publication of paper at International Journal of Emerging Technologies and Innovative Research .

Dear Author,

With Greetings we are informing you that your paper has been successfully published in the International Journal of Emerging Technologies and Innovative Research (ISSN: 2349-5162). Following are the details regarding the published paper.

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UGC Approval	: UGC and ISSN Approved - UGC Approved Journal No: 63975 | Link: https://www.ugc.ac.in/journallist/subjectwisejurnallist.aspx?tid=MjM0OTUxNjI=&&did=U2VhcmNoIGJ5IElTU04=
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Authors	: Dr. G. MALARVIZHI , S . AARTHI CLARA, Dr. G. MALARVIZHI

Thank you very much for publishing your article in JETIR. We would appreciate if you continue your support and keep sharing your knowledge by writing for our journal JETIR.

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DEVELOPMENT OF HERBAL FINISHED SANITARY NAPKIN USING TERMINALIA CHEBULAN

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ABSTRACT

Menstruation and menstruation practices continue to be subject to several social, cultural, and religious limitations, which is a significant obstacle to managing menstrual hygiene. Girls suffer significant difficulties and hurdles at home, in the classroom, and at work because they are not prepared for and awareof their periods in many areas of the country, particularly in rural ones. In our evaluation of the literature, we discovered that inadequate, incorrect, or incomplete knowledge about menstruation is a significant barrier to managing menstrual and personal hygiene. Women and girls know very little or nothing about genital infections, which are brought on by poor personal hygiene during menstruation. Women in rural regions often lack access to sanitary goods, have limited knowledge of their varieties and methods of use, or are unable to pay for them because of their expensive price. They therefore mostly rely on washable, reusable cloth pads. Despite significant advancements in the field of water and sanitation, the needs and requirements of adolescent girls and women remain overlooked. When women are at home, they flush menstrual products down the toilets without thinking about the dangers of choking, and when they are outside, they dispose of them in public restrooms and household waste. Using *Terminalia chebula* to makethis kind of herbal serviette is both secure and cost-effective. For those napkins that cause infections, a mainalternative is to use a herbal fruit to decrease infection. To treat women well in such wonderful circumstances, a step is done in this direction.

Key words: menstrual, hygiene, rural areas, napkins, sanitation, women, cost, knowledge, need, dispose.

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DESIGN AND DEVELOPMENT OF LAPTOP COOLING PAD WITH CERAMIC NONWOVEN FABRIC

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ABSTRACT

Everyone who works in the IT industry experiences laptop heat. The sense of heat from the laptop is one of the many various types of issues that IT employees deal with major cause which are discomfort for IT workers. Air vents on the sides and bottom of many computers are common. Ceramic Cloth is a nonwoven material created from ceramic fiber with a high silicate content. The substance is white and odorless, and it can withstand temperatures of up to 2300°F in high-temperature applications. Ceramic fabric is fire and flame resistant, has low thermal conductivity, low heat storage, and excellent temperature stability. Chemical resistance, compatibility with more corrosive substances, light weight, woven texture, and exceptional handling strength are some of its features. Cotton cloth is utilized as the top layer to provide comfort and protection. Ceramic fiber is a man-made synthetic fiber created from a high purity aluminosilicate filament of tiny dimensions. It is also referred to as "refractory material" or "Ceramic Wool." because the substance, which is white and odorless, has a heat-resistant quality. Compared to these cooling pads, the ceramic fabric is less expensive and more environment friendly. Ceramic fiber can withstand temperatures of up to 2300°F in high temperature applications. The cooling pad's benefits are therefore not limited to IT professionals; they are also utilized by students and other staff members who constantly operate with systems.

Keyboard: Heat from laptop, problem for laptop workers ceramic fabric, cooling agent, ceramic laptop cushion

INTRODUCTION

Ceramic fibers, which are employed in lightweight units for electrical, thermal, and acoustic insulation, are small-diameter filaments or threads made of a ceramic substance, typically alumina and silica. Due to its great thermal tolerance and corrosion resistance, continuous ceramic fabric filaments are typically used in high

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DEVELOPMENT OF MEDICAL GAUZE USING BAMBOO YARN

**Dr.G. MALARVIZHI M.Sc., M.Phil., Ph.D. Department of Costume Design and Fashion, Dr.N.G.P. Arts and Science College, Coimbatore

*SOWMIYA. S., Department of Costume Design and Fashion, Dr.N.G.P Arts and Science College, Coimbatore

ABSTRACT

Innovation in textiles has brought alternative plant-based fibres such as bamboo into the spotlight. Bamboo as a raw material is a remarkably sustainable and versatile resource but the manufacturing process is where the debate really gets heated and the sustainability and green image of bamboo is tarnished. Products made from bamboo are often labelled as 'eco-friendly', 'bio-degradable' and 'anti-microbial' irrespective of their method of manufacturing. The textiles used in the operation and post operative tasks in and around a patient and the medical practitioner are termed as medical textiles which application area embraces all those technical textiles used in non -implantable applications. To cure healing of a wounds area traditionally sterilized or non-sterilized woven gauze fabrics are used directly or indirectly to the wound respectively mainly for absorbing the liquids of the wounded area. Bamboo gauze is light and open weave fabric made of bamboo fibre when used for surgical dressing The surgical wear developed from 100% bamboo fibre result in inhibiting bacteria growth with good tensile property and provides better hygiene and safety for the medical textiles medical gauze is a light material intended for post-surgical wound applications or deep wound healing. Many medical gauze applications are for direct wound placement and maintaining a sterile environment is paramount for healthy, uninhibited healing. The gauze dressings can be medicated or impregnated with antiseptic or made for wound debridement – specifically in cases where the wound is large and the incidence of necrotic tissue may be present. The two general categories of gauze are made from woven and non-woven materials. Below is more information on these categories and general gauze usage. Many parameters affect the mechanical properties and composite characteristics of bamboo fibres and bamboo composites, including fibre extraction methods, fibre length, fibre size, resin application, temperature, moisture content and composite preparation techniques. Mechanical extraction methods are more eco-friendly than chemical methods, and steam explosion and chemical methods significantly affect the microstructure of bamboo fibres. The development of bamboo fibre-reinforced composites and interfacial adhesion fabrication techniques must consider the type of matrix, the microstructure of bamboo and fibre extraction methods.

KEYWORDS: Bamboo fibre - Natural fibre – Anti-microbial – wound dressing – non-Implantable application – woven gauze – bamboo gauze.

INTRODUCTION

Bamboo fibre can be directly extracted from bamboo to be used for other engineering application. Bamboo plants are found in almost all parts of world except those places having extreme cold climates like Europe though some species can be successfully introduced in mild temperate zones of Europe. The Cross-section of bamboo fibre present a hollow structure offering excellent moisture absorption ability and air permeability; and the vascular bundles of bamboo fibre are distributed along the radial direction, which is conductive to the classification and utilization of bamboo fibre. To make this gauze fabric 100% germ -free various types of sterilization process is carried out namely Thermal/ heat sterilization method. Coated are also useful to enhance different properties of gauze fabric. Bamboo gauze can be used for cleansing, packing, scrubbing, covering, and securing in a variety of wounds. Closely woven Bamboo gauze is best for extra strength or greater protection. An important field of application of textile in medicine has been developed such as wound care and preventing chronic wounds. Bandages and wound dressings are most used because they are affordable and reusable. The medical textile should have bio-compatibility, flexibility, and strength. Natural plant fibre composites have been developed to produce a variety of industrial products, with benefits including biodegradability and environmental protection. Bamboo fibre materials have attracted broad attention as reinforcement polymer composites due to their environmental sustainability, mechanical properties, and recyclability, and they can be compared with glass fibres. This review classifies and describes the various procedures that have been developed to extract fibres from raw bamboo culm. There are three main types of procedures: mechanical,

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DEVELOPMENT OF AROMA AND ANTI BACTERIAL FINISHED SOCKS

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ABSTRACT: Redolence's caused by sweat or other reasons are a negativity that occasionally leads to great problems, especially in the sociocultural field. Multitudinous people associate sweaty feet with just being functional in the heat. While this is true, in some cases people substantiation problems with sweaty feet in the time out when wearing excessively warm boots that have insufficient ventilation, extremely thick socks, or a combination of both. Also, some people just have sweaty feet due to surcharged sweat glands, also known as hyperhidrosis. This condition affects the feet and hands and can affect in annoying problems associated with foot health. This disease can beget discomfort, rash, and itching. They can also lead to further complications, alike as foot pain, open blisters, infection, and thickened toenails. Sweaty feet are an agent in the excrescence of foot fungus, fungal toenails, and athlete's foot. The sweat generated in the skin is directly absorbed by the cloth. Based on the fiber type, the intercourse between textile and sweat molecules creates an odor on the textile. Foot infections are usual because foot injuries are usual. The ground is full of troubles and sharp objects, which can pierce the skin and produce an occasion for bacteria to enter the body. Plus, some microorganisms, like the bacteria that causes athlete's foot and toenail fungus, flourish in this atmosphere, and some conditions may increase the threat of foot infection. Wearing socks and shoes for longer time can produce a moist atmosphere, where bacteria and fungi can flourish that lead to eventual infections like Nail fungus, Athlete's foot etc. Another problem faced by people from wearing socks is redolence, it is caused by wearing it for longer period. Smelly socks are socks that have acquired a strong odor due to prolonged wearing. Although the odor of smelly socks is frequently associated with feet, it arises independently of contact with human feet in various foodstuffs such as dairy products, and is naturally present in several plants The smell has also been noted in building and automotive air treatment systems, where it is described as "jock socks odor" or "dirty socks syndrome". Using socks made of Merino wool which absorbs the sweat and finished with chamomile aroma oil prevents the redolence's. Chamomile has an anti-bacterial property. This article aims to develop a sock using *Matricaria chamomilla*, commonly known as chamomile. This flower is renowned for its sugary fragrance and anti-bacterial properties. It prevents the redolence's in socks during summer.

INDEX TERMS: Aroma infused socks, sweat, fungal infections, fragrance finish, anti-bacterial property, chamomile oil, socio cultural field

INTRODUCTION: Outmost people have had to deal with sweaty feet at one moment or another. And while it can be discommoding and annoying, it can also deliver foot troubles. Multitudinous people associate sweaty feet with just being functional in the heat. While this is true, in some cases people substantiation problems with sweaty feet in the time out when wearing excessively warm boots that have insufficient ventilation, extremely thick socks, or a combination of both. Also, some people just have sweaty feet due to surcharged sweat glands, also known as hyperhidrosis. This condition affects the feet and hands and can affect in annoying problems associated with foot health. This disease can beget discomfort, rash, and itching. They can also lead to further complications, alike as foot pain, open blisters, infection, and thickened toenails. Sweaty feet are an agent in the excrescence of foot fungus, fungal toenails, and athlete's foot. Another problem faced by people from wearing socks is redolence, it is caused by wearing it for longer period. Smelly socks are socks that have acquired a strong odor due to prolonged wearing. Their odor, which is complex and remains the object of study, is a mixture of ammonia, adipose acids (in particular, isovaleric acid), and lactic acid. Odorous socks are a strong attractant for some creatures, including dogs and mosquitos. Although the odor of smelly socks is frequently associated with feet, it arises independently of contact with human feet in various foodstuffs such as dairy products, cheeses, sausages and fish sauce, and is naturally present in several plants The smell has also been noted in building and automotive air treatment systems, where it is described as "jock socks odor" or "dirty socks syndrome". Infusing *Matricaria chamomilla* (chamomile) in merino wool socks prevents redolence and protects our foot from fungal infections like athlete's foot, ringworm etc., Its anti-inflammatory and antimicrobial actions are proven to help in wound healing. The efficacity of topical use of chamomile to

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DEVELOPMENT OF KNEE BAND USING THYME OIL FINISH

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ABSTRACT

People of all periods generally complain about knee pain. An injury, similar as a torn ligament or damaged cartilage, may beget knee pain. Knee discomfort can also be brought on by ails including arthritis, gout, and infections. multitudinous minor knee pain conditions respond effectively to tone- care ways. Knee braces and physical remedy are fresh styles for pain relief. Yet sometimes, your knee could need to be surgically repaired. Knee discomfort can be brought on by mechanical issues, different types of arthritis, and other issues. A knee brace is one fashion in controlling the pain of knee osteoarthritis. Strong muscles help stabilise and cover your joints, and muscle inflexibility can help you reach full range of stir. By removing your weight from the area of your knee that's utmost injured, a brace may help you feel less discomfort. Your mobility will increase and you will be suitable to walk further comfortably if you wear a brace. For arthritis in the knee, there are several different types of braces. Weight is removed from the injured area of the knee with an unloader brace. This misalignment gets worse as the detriment gets worse. A knee brace can help drop discomfort by relieving pressure on the area of your joint that's most affected by osteoarthritis. Sigur formerly Domnului knee bands are made to apply pressure to the patella tendon and support the kneecap, which improves patellar shadowing. An unloader brace moves weight down from the injured area of the knee (kneecap movement). They're straightforward but incredibly important and are constantly appertained to as Jumper's knee strips or patellar strips. A knee brace can also help you stand and walk around with further assurance if your knee feels like it might buckle when you put weight on it. Each side of the knee has hinted that guard against knee hyperextension and ligament damage. It may also reduce pain from mild to moderate muscular sprains have been linked to excellent pain relief with menthol. Menthol is an organic patch, specifically a monoterpenoid, that can be

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DEVELOPMENT OF ICE DYE TECHNIQUE IN HOME TEXTILES

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ABSTRACT: The development of ice dye technique is one of interesting textile design creativity because it is a synergistic experiment between technique and colour. "Ice dye" is the process of creating patterns on cloths or fabric. It is an easy way to add a variety of colourful designs and vibrant style to fabric. Ice dye not be limited to clothes-stunning effects can also be achieved on household items such as screens, valances, pillowcases, quilts, bed sheets, etc. It reflects the social life fashion and aesthetic taste. Brilliant effects are created by binding, folding or simply crumpling cloth before dyeing it. Ice dye is a method of introducing coloured or white patterns on fabric by tying it strongly with strings or rubber bands in various ways before immersing it in the dye. Ice dye is a handcraft that is extensively rehearsed in many regions of the world. Creativity is a must-have thing that everyone needs to have so that life continues to be loaded with formative progress. The improvement of dyeing process parameters in the production of ice dye in the bedspreads and pillow cover. Pre-treatment was carried out on the cotton fabric prior to dyeing to remove the starch in the cotton and for easy absorption and retention of the dye in the fabric. The uniqueness of ice dye technique lies in dealing with the bedspreads and pillow cover by the methods of sewing, binding, wrapping, knotting, etc, through "tying" and "dying" to produce the visual effects of colour dyeing, the rich changeable colour gradient and the folding printing and dyeing on the fabric. The combination of various techniques such as tying, folding, sewing, wrinkling, and dyeing creates a natural and expressive movement of absorbent colour that occurs permanently on the fabric. This ancient and special charming handicraft, with its unique effect of colour and pattern printing and dyeing, changes the past use of the fabric. Varicoloured designs may be delivered by repeated tying and immersing in fresh colours. Reactive dye is use to dye bedspreads and pillow cover. They are colourfast permanent dyes that won't fade even after repeated washing. They are fairly affordable, safe, and effortless to use. The techniques are easy and the outputs has never been exactly same so that it can increase the value of the product which are using ice dye technique becomes their uniqueness. The practice of ice dye method can eliminate or reduce the incessant rate of unemployment among the people.

Keywords: Ice dye technique, pre-treatment, reactive dye, bed spreads and pillow cover.

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Development of Anti-Pesticide Finished Jute Apron for farmers

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ABSTRACT

When working in an open field, farmers constantly have skin care disinclinations. Insects and nonentity- suchlike bugs come in a wide variety and can spark disinclinations. The most frequent smelling insects that can affect in an antipathetic responsewhen bitten include mosquitoes, beetles, bedbugs, fleas, and various kinds of cockroaches. The maturity of people who are stunk by insects experience discomfort, greenishness, itchiness, surcharging, and slight lump in the position of the bite. Infrequently, an antipathetic response that could be fatal can be brought on by an nonentity bite. Insects may be the most typical seasonal allergen and asthma detector. A jute apron is a garment that's worn by the farmers over other apparel to cover the front and back of the body. Also, the jute apron is carpeted with nonentity repelling vinegar. Farmers can cover themselves against pests as a result. Vitamin A and vitamin C are among the numerous vitamins and minerals set up in jute, which may help reduce inflammation, support bone health, and strength which raises your threat of complaint, is set up in jute. Jute for case has a advanced position, as does aged jute. The lungs may profit from jute anti-inflammatory parcels. A result of acetic acid isvinegar. Acetic acid typically makes up 5- 8 of acetic acid. In addition to being a fantastic cleanser, vinegar also works well to keep a variety of pests down. Vinegar works incredibly well as a pest interference thanks to its acetic acid content which also kills insects.It works best against mosquitoes, spiders, and ants. Astonishingly, vinegaris a material. It's used for everything from precluding complaint, fending off insects, and cuisine. Most specially, it serves as both an germicide and a general nonentity repellant, making it a useful tool for pest operation. Also aneco-friendly and biodegradable product.therefore, the jute apron aids farmers in guarding themselves from pests and germicides

Keywords: skinallergy, pain, redness, itching, stinging, farmers, jute Apron, relief, anti-pesticide, vinegar (pest control).

INTRODUCTION

Intact, healthy skin is an important part of the immune system and provides defense against physical, biological or chemical agents. Skin allergy is common to farmers when they were working in open field. There are many different types of insects or "insect-like bugs" that may cause an allergic. A jute apron Is a garment that is worn by the farmers over other clothing to cover the front and super pest resistant vinegar. Insect pests are one of the important constrains for underscoring jute production. Jute are filled with vitamins and minerals, including vitamin A and vitamin C, that helps to reduce inflammation, promote bone health, and build up the immune system.

Vinegar is one of the best ingredients to make a pest control .Acetic acid is one of the general organic acids. Acetic acid is one of the very few chemicals with two general names. "Vinegar" means concentrations up to 8%. "Acetic acid" means concentrations higher than 8%. When the concentration is low it is to be called as vinegar. Acetic acid is one of the small number chemicals with two common names. Both depend upon its concentration. "Vinegar" means concentrations up to 8%. "Acetic acid" means concentrations higher than 8%. When the application is low enough to be called vinegar, it is a food product. When the application is high it is to be called acetic acid, and it is used to kill pest. Vinegar is often used as a contact type insecticide, .Vinegar is basically an aqueous solution composed of water and acetic acid. Vinegar as a product has already has both alcohol and acid fermentation. The contentented acetic acid in vinegar makes it an acidic compound. In various types of vinegar, the pH level is 2.5. Thus the jute apron is to be develop with pest resistant vinegar.

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To Create Awareness about Unrevealed Women Leaders and Their Servicing Incidents through Digital Printing

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ABSTRACT

Raising awareness about the unknown women national leaders. Women leaders have played a great role in our nation. Creating awareness can educate people about a topic or issue with the intention of influencing their attitudes behaviour and beliefs towards the achievement of a defined purpose or goal. Awareness is that it helps to develop stronger and superior relationships and connections with people belonging in the society. It helps to enhance our empathy and emotional intelligence, and it also makes us understand the problems of others in a very shallow manner. It helps to convey and spread messages about the unknown women national leaders and their services done to the people. Another major issue in our country is poverty and unemployment. By inspiring through women national leader's services done to the society, people start providing services. Services including such as adopting, donating, promoting can reduce poverty. Another servicing incidents helps to create employment opportunities. Women national leaders who provided services such as:

- **KAMALADEVI CHATTOPADHYAY who has promoted handicrafts.**
- **BHIKAJI CAMA who has donated to girl's orphanage.**

The abovementioned women leaders have played a major role in contribution of the nation. People are still unaware of women leaders who have not only struggled for our independence but who have also provided various services which really inspires us. It also makes people to step forward and provide various services to people. People have forgotten to praise them and their services done to the people and also to bring back their contribution to the nation I have created awareness program .KAMALADEVI and BIKAJI CAMA are not only social reformers but also the women's who tried to support women rights and services those period at of time .But now it is an key for us to understand their contribution and consider how important is it now for our generation .So bringing them back to form .By keeping their services as inspiration one should consider how important it is to create awareness that should be given to all and known to all .

Keywords: Awareness -educate -spread messages -inspiration -women national leaders -services -poverty -unemployment -handicrafts -orphanage.

INTRODUCTION

Awareness is the seed of action. When we are aware about something, then we are able to do something about the issue. It assembles against a concern, a problem, or a foulness. Raising awareness contributes educating and understanding and has a direct link to switch. Awareness-raising is a process that seek to inform and educate people about a topic or issue with the aim of influencing their attitudes, behaviours, and beliefs towards the achievement of a defined purpose or goal. Awareness is that it helps to develop stronger and superior relationships and connections with people belonging in the society. It helps to enhance our empathy and emotional intelligence, and it also makes us understand the problems of others in a very shallow manner. If we are socially aware, then sometimes we behave selflessly and think about the problems that other individuals are facing. Awareness will help us to make right social decisions, and it will also enhance ourview. The feelings of empathy, respect, and positivity increase and make our lives happier and superior. We learn to respect the community we belong to and try to upgrade our behaviour towards other people and ourselves. The more knowledge we have, it is better because, with the changing environments, our understanding and skills must enlarge and adapt. Social interaction becomes the best if we know enough about particular issues and topics. People tend to respect your idea if you can express your opinion freely and fluently. Thus, it is very crucial to develop awareness, as it has the ability to understand society is very prime. This present study is based on creating awareness about women leaders and their servicing incidents through digital printing with following objectives.

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DEVELOPMENT OF WOMEN KURTA WITH ANTI BACTERIAL AND UV PROTECTION

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ABSTRACT

Textiles and clothing infused with medicinal herbs are becoming popular, especially in urban India. After invention of synthetic dyes, natural dyes are not used because of the advantage of synthetic dye over natural dye in respect of application,colour range, fastness properties, and availability.But, some synthetic dyes are hazardous, carcinogenic and also release vast amount of pollutant in the environment during their manufacturing,Bandhej is a combination of a cluster of patterns, beautiful colour combinations and charming whirls. Wearing Bandhani is a mark of identity in numerous communities. Bandhej is generally worn as a marriage outfit or on traditional occasions.Bandhani is generally made up of natural colours Bandhani is one of the notorious cloth patterns in India. Bandhani of Gujarat is veritably notorious in India. It's a traditional numerous other garment accessories as well. The process of making one Bandhani is lengthy and this process is complicated.The main source used in this fashion is an natural color.Natural colorings arenon-toxic,bio-degradable,anti-bacterial,anti-microbial and it also have a UV protection which drop the threat of getting skin cancer. On this fashion the Terminalia chebula plays an important part which is called as" king of drug" it was also called as myrobalan operation of the waterless excerpt of T. chebula rich in tannins and vitex negundo has a antimicrobial agents provides an effective terrain friendly finish. It bettered the fibre's, UV protection capacities, light fastness and perspiration fastness along with antimicrobial properties.These process were done on the cotton fabric which have the property of immersion, breathability and good strength.

Key words:Natural dye ,Bandhani Technique , Lehariya TechniqueTerminalia Chebua ,king of medicine ,Vitex Negundo ,anti-bacterial properties, UV protection.

INTRODUCTION

The cloths which are dyed exclusively with herbal extracts without using any chemicals are called herbal textiles .These gravies are applied to the fabric using natural ingredients in order to save medicinal parcels. Further, bleaching of cloth is done by exposing it to sun without the use of any chemical bleach.The generality of herbal fabrics has been derived from Ayurveda, the ancient Indian system of vedic healthcare. Ayurvastra is a branch of Ayurveda.

THE PROBLEM WITH SYNTHETIC CLOTHING DYE

The problem with synthetic colorings lies with the fact that utmost colorings that are used for vesture and hair related uses contain chemicals that are carcinogenic and are largely toxic. Back in 1992, a disquisition that was submitted to the Environmental Protection Agency set up that short term exposure to this adulterant caused a variety of adverse side goods analogous as business, bladder excrescence and upper respiratory tract vexation.

INFUSING THE NATURAL EXTACT ON BANDHANI TECHNIQUE

BANDHANI TECHNIQUE

Bandhani is a tie and color fashion on woven cloth. The name Bandhani is used colloquially for both the fashion of tie and color as well as the final cloth Bandhanis are brightly coloured and vibrant; and have a myriad of patterns; designs include flowery, abstract, beast motifs or geometric patterns. Knots are arranged in various patterns to make interesting designs. The tied knots affect in blotches in the final dyed cloth.

LEHARIYA TECHNIQUE

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DEVELOPMENT OF EYEMASK USING *TABERNAEMONTANA DIVARICATA*

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ABSTRACT

Eye strain is a term generally used in the digital age. It occurs when your eyes get tired after concentrating on a particular task for an extended period of time. Its signs consist of sore, worn-out, burning or itching eyes, dry eyes, even sometimes watery eyes, blurred or double imaginative and prescient, headache and multiplied perceptivity to light. Eyestrain can be annoying and unwelcome. It also leads to serious or long- term consequences like problems with your retina, cataracts, age- related macular degeneration and sleep disturbance. Eyestrain is substantially affecting two sectors of people; drivers and software engineers. Drivers, especially truck drivers, may need to push for a long hours of driving with unfixed routine driveways and weather conditions. Being continuously exposed to bright light or flare, they suffer from eyestrain and sleep disturbances. Software engineers who view computer screens and other digital bias for long time are enduring 'Computer vision syndrome' also called as digital eyestrain. Their prolonged viewing of blue light of screen is dangerous to eyes in the long term. These symptoms are mild and it can be relieved by giving relaxation to eyes. The symptoms of eyestrain can be reduced using a cool eye mask while sleeping can help as it'll relax the veins around the eyes, and gives soothing sense. This article aims to develop an eyemask using *Tabernaemontana divaricata*, generally known as crepe jasmine flower. This flower is well-known for its medicinal and cooling property in Ayurvedic treatment. It's used to treat sore eyes due to extreme heat in eyes. The application of medical grade non – woven cotton materials in eye mask adds to the cooling effect.

KEYWORDS: Eyestrain, drivers, software engineers, sleep disturbances, sore eyes, eyemask, cooling property, crepe jasmine flower.

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Investigating the Impact of Plant Fibres in Increasing the Strength of Concrete

G. Malarvizhi, *Research Scholar, Textile Technology, Bharathiar University, Coimbatore.*
S. Karpagam Chinnammal, *Head, Assistant Professor, Department of Costume Design and Fashion, Chikkanna Government Arts College, Tirupur.*

Abstract

The effect on utilization of thuthi and banana fibres to improve the strength of the fibre reinforced concrete was considered as the primary objective. Two fibres, thuthi and banana were selected to construct a hybrid composite fibre (HCF). Thuthi and HCF separately were reinforced with concrete matrix of standard M20 type. All the concrete after casting and curing for 28days, the three tests (Compressive strength test, split-tensile strength test and flexural strength test) emphasizing the strength of concretes were investigated as per BIS standards. During the analysis, compressive strength of M20 control concrete was found to be 19.5N.mm^2. Thuthi reinforced concrete showed 21.6N/mm^2 and hybrid composite fibre reinforced concrete showed 25.5N/mm^2. Increase in tensile and flexural strength for hybrid composite reinforced concrete was also observed. Thuthi reinforced concrete exhibited 3.6N/mm^2 and 4.2N/mm^2 of split-tensile and flexural strength. Hybrid composite fibre reinforced concrete showed 4.8N/mm^2 and 6.9N/mm^2 respectively. Test results reveals that the presence of fibre has direct influence in the increase of concrete strength. With Change in the length and percentage composition of fibres in the concrete mixture, the strength of the concrete along with the durability against deterioration will rapidly increase.

Keywords: Thuthi fibre, hybrid composite fibre, reinforced concrete, compressive strength, M20 concrete.

Introduction

Natural fibres are of different types, used in different industries for the development of novel consumer products. In textile and allied industries, natural fibres have strong and potential applications [1]. In recent years, the fibres were experimented for their native strength and other physical properties [2]. The proven tensile strength of many fibres like sisal, banana and kenaf made the structural and civil engineers to include the fibres in concrete mix either as one of the major ingredient or as a partial replacement to fine aggregates [3]. A civil and structural engineers' fundamental requirement for making concrete structures is to fabricate strong balanced quality concrete with careful proportion of ingredients mix [4]. Many researchers have experimented the compressive strength, flexural strength, water absorption, porosity, resistance to cracking and thermal resistance of the concrete casted using the natural fibres. Very promising results like greater durability, improved impact strength and toughness in the fibre reinforced concrete were identified [5]. The contribution of fibre directly influences the composites behaviour to understand the properties of fibre reinforced concrete. The success of these concrete relies on the following properties like, length of the fibres used, type and orientation of fibres, percentage of the fibre, and ratio of fibre modulus to matrix modulus in the composite [6]. Even though fibre reinforced concrete was proved to be strong and tough, the durability of the fibre in the concrete was considered significantly. Durability was meant for its resistance to degradation or deterioration due to any external or internal causes [7]. Most of the research work performed till date was by using sisal reinforced concrete structures. Sisal fibre is a hard fibre extracted from the leaves of the sisal plant (*Agave sisalana*) [8].

In this study, two fibres thuthi and banana was selected and investigated for the compression strength and tensile strength of the fibre reinforced concrete. Thuthi and banana fibre was selected for the concrete studies since their properties were found similar to sisal fibre. Therefore, the effect on utilization of thuthi and banana fibres to improve the strength of the fibre reinforced concrete was considered as the primary objective.

Materials and Methods

The present research work was carried out in Department of Costume and Fashion, Dr. N.G.P.Arts and Science College, Coimbatore, India. The entire research work was performed from March 2017 to June 2017.

A. Cement (BIS-8112, 1989)

Commercial cement with IS mark 43 grade was commercially procured from the cement suppliers, Coimbatore, Tamil Nadu, India. Cement was checked for its freshness and presence of any lumps on it. Cement was tested as per BIS-8112, 1989 [9] (Initial and final setting, specific gravity, and fineness).

B. Coarse and Fine Aggregates (BIS-383, 1970)

Coarse and fine aggregates were commercially procured from the building material suppliers. About 12mm size of coarse aggregates was selected for the study. Both the aggregates were tested as per BIS-383, 1970 [10] standards. Specific gravity, fineness modulus, and water absorption tests were performed prior to the study.

C. Water (BIS- 456, 2000)

Development Of Novel Wound Dressing Materials Using Natural Fibre Reinforced Polymer Biocomposite

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Dr. S. Karpagam Chinnamal, HOD, Asst. Professor, Dept. Costume Design and Fashion, Chikkanna Government Arts and Science College, Tirupur

Abstract

Natural fibre reinforced polymer biocomposite as 2D laminate wound dressing material was developed and evaluated for its wound healing abilities. Two fibres, thuthi and banana were selected to construct a hybrid composite fibre (HCF). Both thuthi and HCF were reinforced with a polymer, poly vinyl alcohol (PVA) to develop a 2D laminate film material. Developed material was evaluated for its antibacterial activity and wound healing ability using a standard in vitro wound scratch assay method. Antibacterial activity showed potential results by exhibiting inhibitory zones against two bacterial wound causing pathogens, *Escherichia coli* and *Staphylococcus aureus*. The developed composite also showed promising wound healing abilities when assayed under in vitro conditions. The method implemented in this research to develop biocomposite shall be used for other fibres to optimize and determine the enhanced antibacterial actions and wound healing abilities. In future the natural fibre reinforced polymer biocomposite shall also be used in different forms and structures to meet the needs in the field of pharmaceutical science and medical textiles.

Keywords: Plant fibre, Reinforced, 2D laminate, Biocomposite, wound dressing film

Introduction

Natural fibres and its applications are growing in many sectors such as automobiles, constructions, furniture, packing and cosmetics, medicine and for other biopolymers and fine chemicals[1]. This is mainly due to their advantages compared to synthetic fibres, *i.e.* low cost, low weight, less damage to processing equipment, improved surface finish of moulded parts composite, good relative mechanical properties, abundant and renewable resources[2]. Natural fibres are used in medical textiles since it possess a high strength to weight ratio, high fracture toughness, non-corrosive nature, renewability and sustainability[3]. Some of the natural fibres are bamboo, kenaf, sisal, hemp, jute, silk and cotton. Bamboo significantly consists of cellulose fibre embedded in a lignin matrix; hence they are traditionally used as a material for the manufacture of tools. Bamboo naturally has high strength to weight ratio[4]. Other fibre called Kenaf is one of the natural (plant) fibre used as reinforcement in Polymer Matrix Composites (PMCs); it is well known for its rich cellulose fibre content[5]. An important hard fibre which is extracted from the leaves of plant (*Agave sisalana*) is termed as sisal fibre. Due to its hard and high tensile structure it is widely used in the construction industries[6]. It was reported that these plant-based natural fibres have been frequently used in the manufacturing of biocomposites. Biocomposites are largely utilized in biomedical applications such as drug and gene delivery, tissue engineering, orthopedics, and cosmetic orthodontics[7]. Biocomposites can be fabricated by combining biofibres such as kenaf, industrial hemp, flax, jute, pineapple fibre, sisal, wood, and various grasses[8] with bio-binders, commonly known as biopolymers[9]. Polylactic acid (PLA) and polyglycolic acid (PGA) are the two major polymers. These bio binders can degrade inside the body at a rate that can be controlled; their degradation products are nontoxic, biocompatible, and easily metabolized. Bio-binders find many applications in a number of fields such as drug delivery system, wound healing, food containers and agricultural films, waste bags, soil retention sheeting, filtration, hygiene and protective clothing, and automobile industries[11]. Biocomposites are widely applied in the field of biomedical applications. Alternatively, biocomposites are also used in other applications which are reported in the form of a natural fibre or in the form of plant fibre component. The primary reason for the development of biocomposites from natural fibre is, they are highly flexible, distribution of the reinforcing phases in the composites and as a wide range of mechanical and biological properties. They may be engineered into the development of the next generation of materials, products, and processes.

In the present research, two different plant fibre was reinforced with a bio-binder polymer called poly vinyl alcohol (PVA) to develop a 2D laminate biocomposite film. The developed biocomposite films were evaluated as wound dressing material under *invitro* methods. Thuthi plant fibre and banana stalk fibre selected in this research were based on the properties and applications of biocomposite in medical fibres. The biomedical natural fibre reinforced polymer biocomposite was evaluated for its antibacterial activity and biocompatibility using standard methods.

Materials and Methods

The present research work was carried out in PG and Research Department of Costume and Fashion Technology, Dr. NGP College of Arts and Science, Coimbatore, India. The entire research work was performed from January 2017 to April 2017.

Research Article

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EVALUATING THE NATURAL FIBRE REINFORCED POLYMER BIOCOMPOSITE FOR THE DEVELOPMENT OF NOVEL WOUND DRESSING MATERIALS

G. Malarvizhi [1] and S. Karpagam Chinnammal [2]

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ABSTRACT

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55. HERBAL FINISHED BABY DIAPERS (NAPPY PADS) TO REDUCE SKIN RASHES

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Dr.S. KarpagamChinnammal
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INTRODUCTION

Medical textiles are broadly classified as non-implantable materials, implantable materials, extra corporeal devices, hygiene products, protective and health care textiles. Health care and hygiene products include both disposable and non-disposable products mainly used in hospitals such as surgical gowns, surgical masks and gloves, diapers, sanitary napkins, wipes and incontinence products. The use of such products helps to reduce the opportunity for contamination by biological toxins and infectious pathogens. Hygiene and health care textiles consists of absorbent disposable products, such as nappy pads, sanitary napkins, tampons, panty shields, etc. which are mostly single use items.

Nappy pads are made up of different kinds of fibers such as cotton, rayon, wood pulp and cotton linters which are usually cellulose fluffs combined with super absorbent polymers to create the absorbent core that acts as a storage structure in the product. When baby passes urine onto the nappy pads it creates the favorable conditions for the growth of microbes which will result in the occurrence of nappy rashes. Also the cellulosic materials used in nappy pads are easily degraded by microorganisms which in turn affect the sensitive skin of babies. Hence to prevent such nappy rashes some kind of an antibacterial finishes is essential. Herbal plant extract for antimicrobial finishing is used in textiles because of the excellent antimicrobial and eco friendly properties exhibited by them. Hence an attempt was been made to study the effectiveness of herbal antimicrobial finish on the nappy pads.

Objectives: The objectives of the study were

- To elicit information from selected mothers about nappy pads.
- To select and optimize suitable herbs for the finishing of nappy pads.
- To prepare and evaluate the physical and aesthetic properties of the prepared nappy pads.

METHODOLOGY

- **Selection of sample and Collection of data:**
  Hundred lactating mothers whose babies were in the age group 3-18 months were selected as the samples for the project. Information's regarding the usage of baby nappy pads, problems commonly faced, need and awareness of any special features was collected and consolidated using an Interview schedule method.

➢ **Designing Baby Nappy Pad:**

❖ **Selection of material:**

COMPONENTS OF NAPPY PADS	SELECTION OF MATERIAL
Top sheet / skin touching layer	Polypropylene nonwoven fabric (Hydrophilic)
Absorbent core	Unbleached wood pulp compressed in between 19 GSM of polypropylene non woven fabric
Back sheet	Polypropylene nonwoven fabric (Hydrophobic)