

MARKET ASSESSMENT OF NPWT MEDICAL DEVICES IN INDIA

Dissertation Submitted to



The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree of

Master of Business Administration (MBA)

in

Pharmaceutical Management

By

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Under the Supervision and Guidance of

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2024

EXPERIENCE CERTIFICATE

'This is to certify that Mr. Siddhant Singh, pursuing MBA in Pharmaceutical Management from IIHMR University, Jaipur, has successfully completed his internship of three months starting from April 1, 2024, until July 1, 2024, at our organization based in Delhi.

He has successfully completed the project titled "Market Assessment of NPWT Medical Devices in India" under the guidance of Ms. Vaishnavi Paningipalli, Assistant Product Manager- PMT.

Mr Siddhant is a responsible and committed individual. We wish him all the best in all his future endeavours.

Best Wishes


Nisha Mishra
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CERTIFICATE

This is to certify that Mr. Siddhant Singh, in partial fulfillment of the requirements for the award of the degree of MBA in Pharmaceutical Management from IIHMR University, Jaipur, has successfully completed his internship at Triage Meditech Pvt Ltd. from April 1st - July 1st, 2024.

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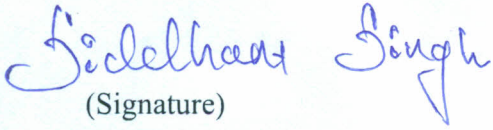
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DECLARATION BY STUDENT

I hereby declare that this dissertation titled **Market Assessment of Negative Pressure Wound Therapy** is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.


(Signature)

Siddhant Singh

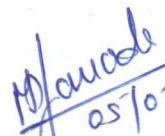
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CERTIFICATE

This is to certify that the dissertation titled "Market Assessment of NPWT Medical Devices in India" is a record of the research work undertaken by Siddhant Singh in partial fulfillment for the award of the degree of MBA (Pharmaceutical Management) from the IIHMR University, Jaipur under my guidance and supervision and his approach to the research study has been sincere, scientific, and an atypical.


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Abstract

The report examines the topic of medical devices using secondary data sources and provides an overview of the Indian market for NPWT medical devices. This explains how the development and progress of this sector is taking place. The negative pressure wound therapy medical devices and Indian company's medical devices industry is growing, and their applications are an important component of the study. The market segmentation of negative pressure wound therapy medical devices demonstrates how much scope we have in this industry, which immediately corresponds with us and leads us to the question of how much we can investigate and where we stand in this field. The general trends of the negative pressure wound therapy medical devices market with future impact and trends for prediction of the growth of the negative pressure wound therapy medical devices in India is a general indicator that how fast this market is growing as the cost of NPWT medical devices is much higher as compared to medicines and this also leads to the fact that as the population grows and the cost of treatment goes up, this also affects the NPWT medical devices market.

Acknowledgement

It brings me great pleasure to thank my mentor, Dr. Saurabh Kumar Banerjee (Dean Pharmaceutical Management, IIHMR University), for his support and encouragement during my dissertation; it is his consistent encouragement that has enriched my development as an intern. I am grateful to him for providing important guidance throughout the examination, his recommendations, valuable suggestions, optimistic and strong demeanor, and unwavering support, without which the endeavors would not have been possible to complete.

I would extend my vote of thanks to Dr. Saurabh Kumar Banerjee who gave me the guidance and support during my internship.

I hope that, in the future, I will be able to draw on my expertise and skills to make a useful contribution to the industry.

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CHAPTER – 1

INTRODUCTION

In the realm of wound care, negative pressure wound therapy (NPWT) has become a cutting-edge technology that offers an option to the ongoing problem of complex and chronic wounds. This treatment applies negative pressure to the wound site using a vacuum device, which facilitates waste evacuation, improved circulation, and tissue development, all of which speed up the healing process.

In the Indian healthcare system, treating complex wounds like pressure ulcers and chronic wounds has long been a problem. Negative pressure wound therapy, which can successfully treat a variety of wound forms, has demonstrated encouraging results in treating this issue. Over the last five years, the peer-reviewed literature has demonstrated that negative pressure wound therapy functions via processes that comprise the evacuation of fluids, micro deformation, bringing the wound together, and wet wound healing.

This therapy's application in specific types of wounds has also been validated by several randomised clinical trials, underscoring its potential as a workable wound healing strategy.

Negative pressure wound therapy systems are becoming more and more popular in the Indian medical device industry because to the rising incidence of complex and chronic wounds as well as the growing acceptance of the therapy's benefits.

The benefits of using such an advanced wound care solution are shared by a very small patient population that can afford the medium-to-high cost of therapy that is associated with using these advanced technology medical devices, which explains why there is still a limited demand for negative pressure wound therapy (NPWT) medical devices in India. However, India has markets for practically every kind of medical equipment, including NPWT. The majority of these markets are supplied through a variety of programmes after being founded on government purchasing. Despite the ongoing pull of scarce resources,

India's hospital network both public and private is gradually growing in order to improve the nation's healthcare quality, which could lead to a rise in the number of individuals looking for top-notch medical care. Furthermore, the rising prevalence of lifestyle diseases particularly diabetes that are also affecting the younger generation may serve as a catalyst for the broader application of cutting-edge wound care techniques.

BACKGROUND OF NEGATIVE PRESSURE WOUND THERAPY

Class III medical device in India, NPWT is primarily designed to treat complicated and challenging-to-heal wounds, like diabetic neuropathy patients with infected stasis ulcerations. As of right now, only a few foreign firms are producing the majority of the notable NPWT devices available on the market. Chronic wounds, however, can be treated with a low-tech, easily acquired device if it is economical, safe, and supported by further therapies. A domestic producer in India is selling an NPWT device, and the Central Drug Standard Control Organisation of India has certified two more NPWT devices made by Indian manufacturers. These devices generally did not garner much attention, nor did they make enough progress or have transparent manufacturing processes. market specifics, the available literature is deficient in terms of prospective revenues and manufacturers in the Indian NPWT medical device business.

Infections, diabetes, venous stasis, and hypertension are important contributing factors to the prevalent occurrence of chronic wounds in the elderly. These wounds are characterised by delayed healing and stopping the regular stages of healing. Managing wound healing necessitates a lengthy course of therapy and a wide range of tools, dressings, and medications. NPWT is a cutting-edge treatment approach that can be used in acute care, wound care, and surgery settings. NPWT's modalities of action, which include reducing oedema, increasing blood flow, increasing granulation, and increasing wound contraction, have led to its current recognition as a very effective and efficient modality for managing both acute and chronic wounds. The wound site is sealed by a vacuum-pressure assisted device (VPAD), also known as an NPWT medical device, which provides continuous, regulated negative pressure.

Mechanism of Action and Key Benefits of NPWT

Different mechanisms play a role in the promotion of wound healing by NPWT.

- Macro deformation: The applied negative pressure plugs the borders of the wound, reducing the total area of the wound that has to heal.

- Micro deformation: On a cellular level, negative pressure causes Strain and Deformation, known to drive Angiogenesis, Growth Factor synthesis, and mitosis.

The process by which mechanical forces alter cell function is called mechano transduction. It is key to the understanding of how NPWT promotes healing.

Fluid Removal: One of the steps of healing is the removal of inflammatory substances that could impede healing. Therefore, NPWT removes excess wound fluid and exudate, which in turn helps stabilize the environment around the wound.

- Biochemical Changes: It has been demonstrated that NPWT reduces the levels of matrix metalloproteinases, which are potentially injurious to the extracellular matrix. It also enhances growth factors and lowers pro-inflammatory cytokines, making the environment for healing better.

- Change in Perfusion: Although early studies concluded that NPWT had a positive effect on increasing perfusion, recent studies confirm that suction pressure in NPWT is directly proportional to the decrease in perfusion. This still stresses that NPWT must be used very carefully in patients with reduced perfusion.

To sum up, NPWT optimises the wound healing environment by utilising a range of macro- and micro-level impacts, fluid management, metabolic modulation, and perfusion alterations. With the addition of other modalities like NPWT with instillation, the technology has continued to advance and become more capable.

Evolution and Advancements in NPWT Technology

An open-pore foam sponge sealed with an occlusive dressing and coupled to a vacuum pump was the basis for the first development of NPWT in the 1990s. Since then, portable vacuums that run on batteries have been introduced, along with a variety of dressing

alternatives.

Among the significant developments are:

Portable, lightweight vacuums that are appropriate for people with mild to severe exudate
Programmable devices with intermittent or continuous negative pressure cloths containing silver to help control infection.

Tools that make it possible to irrigate a wound with fluids.

The first business to receive FDA clearance for an NPWT product was Kinetic Concepts in 1995. As the method gained traction in the US, Medicare approved its compensation in 2001.

APPLICATION OF NPWT

NPWT's Use in a Range of Wound Types

Numerous acute and chronic wounds can be treated using NPWT, such as:

- dehisced surgical wounds,
- closed surgical wounds,
- open fractures,
- open abdominal wounds,
- pressure ulcers,
- diabetic foot ulcers,
- venous insufficiency ulcers,
- skin grafts,
- burns, and
- external wounds.

Specifically, NPWT is indicated for large and complicated wounds that are slow to heal.

In open fractures and contaminated wounds, this technique is often complemented by surgical debridement.

There is consistent evidence supporting the use of NPWT to quicken healing of diabetic foot ulcers. The findings with regards to pressure ulcers are conflicting but look promising for other wound types.

Moreover, NPWT may also be indicated for intraoperative care in clean surgery in obese patients for the prevention of complications. Its effectiveness and cost-effectiveness, though, against standard dressings, depend on the type of wound.

In other words, NPWT is a very versatile technique that applies sub-atmospheric pressure to quicken the process of healing in acute and chronic wounds. Since its introduction, it has rapidly evolved to the point where the technologic has given doctors more options regarding how to treat each patient based upon their needs.

Current Size and Growth of the NPWT Market in India

Size of and Growth in the Indian NPWT Market: The market size in numerical terms of the NPWT market in India expects to increase from the current valuation of \$1.8 billion in 2024 to swell at \$3.8 billion valuation in 2033 at a compound annual growth rate of 4.3%. The adoption of NPWT technology has been very rapid in India, as it reduces the chances of infection, acts as accelerator in wound healing, and improves the overall outcome of patients. The segments in the Indian NPWT market are categorized based on type, application, end-user, and geography. Based on type, NPWT held a share of 45.2% in 2023 and is expected to continue dominating the market during the forecast period as well.

Key Players in the Indian NPWT Market and Their Market Share

According to Global Data's Market Model methodology, the key players in the Indian NPWT devices and accessories market in 2022 were:

- Triage Meditech

- 3M Co
- Molnlycke Health Care AB
- Paul Hartmann AG
- Smith & Nephew
- Convotec

The market is dominated by these multinational companies selling a wide range of NPWT devices and accessories suitable for a broad range of wounds and settings.

Factors Driving the Adoption of NPWT in India

Increasing Prevalence of Chronic Wounds:

India has a high burden of chronic wounds, mainly diabetic foot ulcers and pressure ulcers, with the rising diabetic population and an aging population as the reasons. Increasingly, adoption of negative pressure wound therapy in this country is expected to grow since the treatment has already shown highly effective results in such complex wounds.

Growing Awareness and Acceptance of NPWT:

Awareness among healthcare professionals about the benefits of NPWT is high in the Indian context, as is increased acceptance and use. Besides, the applicability of NPWT systems to both hospital and home care settings increases their lure in the diversified healthcare setup of India.

Government Support through Initiatives and Policies:

Steps that the government of India is taking to improve the management of wound care, particularly attempts at policy frameworks, will give a bounce back to advanced therapies

like NPWT. These efforts will therefore further increase growth in the NPWT market as healthcare spending rises in the country.

Underserved rural and semi-urban areas:

Even while NPWT is fast gaining in popularity in India, it will be a considerable chunk of the population in the rural and semi-urban areas who do not have access to this advanced form of treatment for wound care. Lack of skilled manpower and health infrastructure has been one of the main deterrents in the mass application of NPWT in these areas up until now.

Companies involved in the Indian NPWT industry should emphasize developing more user-friendly devices at an affordable cost, which are easily installed at remote locations to bridge the gap. This will also foster collaborations with different government programs and local non-profit organizations, thereby expanding the outreach of NPWT.

Expansion into New Application Areas

Although pressure ulcers and diabetic foot ulcers represent two of the largest chronic wounds in which NPWT is applied, other application areas, such as burn wounds, still offer further growth opportunities. Burn injuries are a significant public health problem in India, and the injuries often result in complicated wounds that require specialized care.

Results have been promising with regard to granulation tissue formation, reduction in oedema, and improved perfusion in the management of burn wounds using NPWT. Despite this, it still remains under-adopted for the treatment of burn wounds in India because of higher costs of this treatment and unfamiliarity among medical practitioners.

NPWT manufacturers should invest in education and awareness amongst medical practitioners about the use of NPWT's benefits for burn wound care to really cash in on this opportunity. Further, increasing the adoption of NPWT for this therapeutic application could be expedited by some cost-effective solutions developed specifically

for the Indian market.

Obstacles in the Indian NPWT Market Healthcare Professionals' Lack of Awareness and Acceptance

Even though NPWT is getting more and more popular in India, health-care professionals are still not very well aware or promote the same, more so in smaller cities and rural areas. Because the devices seem to be complex and would require some amount of additional training, the majority of physicians may remain reluctant to implement NPWT therapy if they remain unaware of its benefits.

To this end, NPWT manufacturers are sadly left having to fund extensive educational programs and training sessions around the country for physicians. The programs need to emphasize the clinical benefits of NPWT and demonstrate how easy today's devices are to use, while providing physicians with hands-on training in order to build their confidence.

Regulatory Landscape and Reimbursement Policies for NPWT in India

The regulatory setup for NPWT devices is managed by the Central Drugs Standard Control Organisation, which is India's national medical device regulatory body.

According to the Indian Medical Device Rules, 2017, NPWT devices are classified as Class C medical devices. Before selling NPWT devices in India, manufacturers and importers must obtain the required regulatory license from CDSCO.

The following are the main legal requirements for NPWT devices:

- Registration of the device with CDSCO, along with its manufacturer or importer obtaining a valid licence to manufacture or import the device.

- Complying with essential principles of safety and performance.
- Providing clinical data establishing that it is effective and safe to use during the approval process. Technical evaluation shall be undertaken with respect to clinical data, manufacturing process, design of the device.
- Did Enterprise CDSCO may also conduct on-site inspections at the production premises to ensure that acceptable manufacturing procedures are being followed.

Reimbursement Framework

In India, the amount that might be reimbursed for NPWT devices differs by healthcare setting and insurance plan.

Public Healthcare System: State-driven health insurance programs, for example, Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana, at times do not cover NPWT. It is often left to the state level to be decided upon, hence varying in coverage all around the country.

Personal Insurance: A few private insurance players in India offer restricted coverage for NPWT, but normally, this is limited to types of wounds and almost always has annual or lifetime limits.

Out-of-pocket costs: Quite often, NPWT devices and accessories are paid for in cash by the patients themselves in quite a huge amount since comprehensive reimbursement procedures are not developed, hence becoming one of the major entry barriers, especially in the case of people belonging to relatively lower socioeconomic status families.

Barriers to wider adoption of NPWT in India

Although NPWT is becoming increasingly popular in India, there are still a number of aspects that have acted as barriers to greater diffusion:

- High cost of NPWT equipment and consumables: it puts a colossal burden on healthcare institutions and patients for the one-time investment required to purchase NPWT equipment and the recurring costs of dressings and canisters.
- Inadequate physician knowledge and training: The perceived complexity of the devices and additional training required for NPWT is likely to make many physicians pretty averse to taking up the technique, especially in cities and then towns, where they remain uninformed about the benefits accruing from the therapy.
- Inadequate infrastructure and accessibility in rural places: From a lack of infrastructure to budgetary constraints, access to NPWT devices and qualified wound care specialists remains limited in rural and semi-urban areas.
- Difference in methods of treatment and dressings: Since there are chances of variations in applying NPWT and duration of therapy in different institutions, this may in turn, affect the quality of recovery by patients.
- Infection risks and side effects: Although NPWT is overwhelmingly effective, there are risks associated with its use, including bleeding, infection, and pain management, that must be factored in to safeguard the patient.

Barriers and strategies to increase diffusion:

- Design single-use, more affordable NPWT products that can be used in India: Manufacturers of NPWTs, therefore, should engage in the production of such accessories and devices at reasonable prices, hence being more accessible to more patients.
- Develop broad-based training programs and education on the use of healthcare providers: These programs must emphasize the therapeutic benefits of NPWT, illustrate the ease of use of today's technology through interactive demonstrations, and provide sufficient hands-on experience that allows clinicians to build confidence.
- Collaborate with non-profit societies and government initiatives based in underprivileged areas to improve access: Partners can unite for an expanded reach of access to this cutting-edge wound care treatment by placing NPWT devices and conducting training where medically practicing professionals from far-flung regions can benefit.

- Partner with insurance companies and lawmakers to modify existing, and introduce more inclusive, reimbursement policies: Patients will benefit more from this treatment due to better coverage for NPWT, more so those of lower social classes.
- Encourage development and implementation of NPWT evidence-based guidelines: Standardized procedures can lend consistency in dressings and treatment methods predictable in their patient outcomes.

CHAPTER -2

LITERATURE REVIEW

SLNO.	STUDY NAME	YEAR	AUTHOR	LOCATION	METHODOLOGY	SILENT FEATURE
1.	Trends in Negative Pressure Wound Therapy (2010), Armstrong and Lavery.	2010	Armstrong and Lavery	Global	Review of emerging trends in NPWT technology and application	Discusses advancements in NPWT devices and their potential impact on the market requirements vary, the methodology is applicable.
2.	Negative Pressure Wound Therapy: Mechanisms of Action	2012	Schultz et al..	Global	Review of research on the biological mechanisms behind NPWT's effectiveness	Provides a deeper understanding of how NPWT accelerates wound healing
3.	Negative Pressure Wound Therapy for Diabetic Foot Ulcers	2013	Margolis et al.	Global	Review of studies on NPWT for diabetic foot ulcers	strengthens the evidence base for NPWT in diabetic foot ulcer treatment
4.	Negative Pressure Wound Therapy: A Review	2015	Dowsett et al.	Global	Review of scientific literature on NPWT principles and applications	Provides a comprehensive overview of NPWT technology and its benefits

5.	Negative Pressure Wound Therapy: Effective Management of Diabetic Foot Ulcers	2015	Margolis et al.	South Korea	Review of studies on NPWT for diabetic foot ulcers	Focuses on the effectiveness of NPWT in managing diabetic foot ulcers, a prevalent issue in India
6.	Negative Pressure Wound Therapy: A Review of the Literature	2016	Jones et al.	Global	Review of existing research on NPWT efficacy and cost-effectiveness	Examines the evidence base for NPWT in different wound types
7.	Knowledge, Attitude, and Practices of Negative Pressure Wound Therapy among Nurses in a Tertiary Care Hospital in India	2016	Malik et al.	India	Survey of nurses on NPWT knowledge and practices	Identifies gaps in healthcare professionals' awareness regarding NPWT.
8.	The Economic Burden of Chronic Wounds in India: A Review	2017		China	Review of studies on chronic wound prevalence and economic impact	Establishes the economic burden of chronic wounds, highlighting the potential role of NPWT
9.	A Review of Negative Pressure Wound Therapy: Effectiveness and	2020		Global	Systematic review of existing research	Analyses effectiveness and economic aspects of NPWT across

	Economic Considerations					various wound types
10.	Npwt devices and accessories market in India, Medical Device Network	2022		India	Market Model analysis by Global Data	Identifies leading players (3M, Molnlycke Health Care, Paul Hartmann, Smith & Nephew).

CHAPTER -3

RESEARCH METHODOLOGY

Research Questions:

1. How much will the Indian NPWT market expand over the next five to ten years?
What are the main causes of this expansion?
2. How much less expensive is NPWT in the Indian healthcare system as compared to conventional wound care techniques?

Objectives:

- Calculate the anticipated growth rate for the next five and ten years in the Indian NPWT market.
- Determine and evaluate the main elements propelling the NPWT market's growth in India.
Examine the price range of conventional Indian wound treatment techniques.

Methodology:

Market assessment of Negative pressure wound therapy of medical devices in India

Study Design: A mixed-methods design will be used for this investigation, integrating quantitative and qualitative techniques.

Quantitative data: Used to evaluate the Indian NPWT market's size and growth rate.

Qualitative data: Applied to comprehend the main forces behind market growth.

Settings:

The study will concentrate on the healthcare system in India, and data collecting may take place at different locations:

- clinics and hospitals that provide wound treatment services.
- Indian enterprises that manufacture and distribute medical devices.
- Governmental health organisations or pertinent business groupings.

Study Populations:

Analysing secondary data: Quantitative data reports from governmental organisations, trade journals, and market research companies.

Optional qualitative data: Medical personnel (nurses, doctors) engaged in wound care.

Purchasing medical equipment is the responsibility of hospital managers or procurement staff.

Delegates from Indian distributors and makers of NPWT devices.

Study tools:

Quantitative data: Forms for gathering information from secondary sources that are pertinent.

Qualitative data (Optional): Industry representatives and healthcare experts' semi-structured interview guides.

Data collection procedure:

Quantitative data: Look through government papers, trade magazines, and market research studies thoroughly.

To obtain pertinent reports and publications, make use of online resources and libraries.

Retrieve information about the NPWT market's size, growth prospects, and affecting variables.

Optional qualitative data: Get participants' informed consent before conducting surveys or interviews.

Interview representatives from the industry and healthcare professionals in a semi-structured manner.

If appropriate, distribute questionnaires to hospital management in order to compile information on wound care procedures and expenses.

Data Analysis Plan:

Quantitative data: To analyse data on market size and growth rate, use statistical tools.

To visually represent market patterns and growth expectations, create charts and graphs.

Optional qualitative data: To find reoccurring themes and patterns in survey and interview data, use thematic analysis.

To give a thorough grasp of the NPWT market and its driving dynamics, combine quantitative data with qualitative insights.

CHAPTER – 4

RESULTS & DISCUSSION

1. Market Size and Expansion:

- In 2024, the Indian market for wound care management devices, which includes NPWT, was estimated to be worth \$1.8 billion.
- The Indian NPWT market is anticipated to reach \$3.8 billion by 2033, growing at a 4.3% CAGR.
- One major factor influencing the adoption of NPWT in India is the rising incidence of chronic wounds, such as pressure ulcers and diabetic foot ulcers.

2. Division of the Market:

- With a 45.2% market share, NPWT led the Indian wound care management device market by product type in 2023.
- The highest percentage of wound types in 2023, 40.1%, were burns, mostly due to the high frequency and seriousness of burn injuries in India.
- Because they are the main healthcare providers for a variety of wounds, hospitals held the greatest market share by end-user in 2023, accounting for 53.1% of the market.

3. Key Players and Market Share:

- Multinational corporations including Triage Meditech, 3M Co., Mölnlycke Health Care AB, Paul Hartmann AG, and Smith & Nephew Plc lead the Indian market for NPWT devices and accessories.

4. Reasons for NPWT Adoption:

- Most chronic wounds are becoming increasingly common because of aging populations and an increase in the number of diabetics; at the top are diabetic foot ulcers and pressure ulcers.

- Greater acceptance and use of NPWT by health professionals as a result of its capability to improve patient outcomes, reduce infection risk, and increase the speed of wound healing.
- Government strategies and programs promoting sophisticated treatments for wound care, including NPWT.
- The authors noted that NPWT device refinements often increase effectiveness and patient compliance due to improved mobility and connectivity.

Discussions:

With the increasing chronic wounds in India, growing patient awareness and acceptance of the therapy, and at the same time receiving encouraging efforts from the government, the NPWT market is expected to grow considerably in the next decade. The devices, while holding current market dominance, are also reportedly widely held for treating one of the major public health problems in India: burn injuries.

One of the major drivers for the use of NPWT in India is an increasing number of chronic wounds, mainly due to ageing and diabetes. Raising awareness among doctors and medical professionals about the benefits of this advanced therapy in wound healing has consequently increased the use of this treatment both in hospitals and at home ends.

Government initiatives undertaken by the Indian government to popularize the use of advanced wound care solutions, coupled with increasing healthcare spending by the nation, is likely to provide further boost to the growth of the NPWT market. Technological advancements in terms of improved mobility and connectivity have also been a few contributing factors toward increased adoption and application of NPWT devices.

But for this therapy to become more reachable and affordable for a bigger patient population in India, there are still many hurdles that need to be crossed—not to mention the high cost of NPWT devices and accessories, and restricted reimbursement coverage. More reasonably priced NPWT products by manufacturers for application in the Indian

market should be a top priority. In addition, collaboration with insurance companies and legislators working to improve the guidelines for reimbursement has become imperative.

The drivers for this are the rising prevalence of chronic wounds, increasing awareness, and positive government initiatives. Addressing the reimbursement and financial barriers is necessary if improved patient outcomes throughout the country and widespread utilization of this innovative wound care treatment are to be achieved.

CHAPTER-5

CONCLUSION

The NPWT market is expected to grow manifold with a compound growth rate of 4.3% from 2024 to 2033. The market was valued at \$1.8 billion in 2024 and is projected to reach \$3.8 billion by 2033. Some other major factors are the rising chronic wounds, especially diabetic pressure ulcers and diabetic foot ulcers, as a result of an ageing population and total number of diabetics in India.

Based on the type of product, NPWT devices held a 45.2% market share in 2023, as it is the fastest-growing segment. By wound type, burns account for the highest share of about 40.1% in 2023, and it clearly shows the prevalence and severity of burn cases in the country. By end users, hospitals held a 53.1% share in the market in 2023, as most wounds are primarily treated in hospitals.

The Indian NPWT market is dominated by multinational corporations like Triage Meditech 3M Co., Mölnlycke Health Care AB, Paul Hartmann AG, and Smith & Nephew Plc. Because of the advantage of minimizing infection risk and accelerating wound healing, non-pharmacological wound therapy is adopted for wider practice in home care and the hospital setting.

Further fuelling this growth in the Indian market has been technological advancements in NPWT devices and policies and activities by the supportive government for better therapy in wound care. However, the high cost of NPWT accessories and devices adds to the narrow coverage of reimbursements, which acts as a key challenge to reach more patients.

Producers of NPWT should, therefore, target to come up with cheaper products for the Indian market to capture growth opportunities. Besides, they have to collaborate with the insurance companies and lawmakers to come up with better guidelines concerning insurance reimbursement. In case these challenges have to be faced for instance to ensure that there is wide adoption of NPWT and enhanced patient outcomes in India, there will be a need to

CHAPTER -6

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