



# **A Journey from Clinical Pharmacist to a Diabetic Foot Wound Care Pharmacist from India: An Experience from Amit Jain's Institute of Diabetic Foot**

**H. C. Apoorva<sup>a\*</sup>**

<sup>a</sup> *Amit Jain's Institute of Diabetic Foot & Wound Care, Brindhavvan Areion Hospital, Bengaluru, Karnataka, India.*

## **Author's contribution**

*The sole author designed, analyzed, interpreted and prepared the manuscript.*

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## **ABSTRACT**

Diabetes is a growing problem and so are its complications with diabetic foot being one of the commonest known complications. Diabetic foot is often associated with amputation that increases the morbidity and mortality. Often, multidisciplinary management consisting of prevention, education, examination, treatment etc and multidisciplinary team approach can provide favorable outcomes. One of the members among this multidisciplinary team has been a pharmacist in few of the expert diabetic foot Centre's around the world. It is observed that, though spoken of their role in clinical practice, either such roles are limited or undervalued. Further, there are sparse publications that provides a clear-cut role, training, responsibility, and their experience in a diabetic foot team. This article provides an essential insight on the journey of one of the first diabetic foot wound care Pharmacist from India.

\*Corresponding author: E-mail: [apoorvahc1996@gmail.com](mailto:apoorvahc1996@gmail.com);

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## 1. INTRODUCTION

Diabetes mellitus is a chronic non-communicable disease which has affected around 422 million people globally and is projected to affect 629 million people by the year 2045 [1, 2]. One of the most common complications of diabetes is diabetic foot which is very distressing in nature [3]. The incidence of diabetic foot is increasing worldwide and this condition affects the quality of life and often have high treatment cost [4]. Diabetic foot is in a leading cause of hospitalization and is today one of the commonest causes of amputation [5, 6].

Patients with diabetes have 10 to 20% higher risk of amputation compared to those without diabetes [6]. In fact, it is seen that 50% of the mortality that occurs is due to an amputation in diabetic foot [7].

Managing diabetic foot has always been challenging among healthcare professionals [8]. It is often recommended that a multidisciplinary or interdisciplinary approach is needed to improve the outcome in diabetic foot patients [9, 10, 11]. The teamwork improves efficiency and often is helpful in dealing complex problems [12]. The different experts in the team includes podiatrist, physician, nurses, vascular surgeons, infectious disease expert, physiotherapist, Pharmacist, orthopaedician, orthotist, etc [8, 13, 14].

It is often noticed that the numbers and the members in the team are different in various organizations. One such member whose expertise could benefit is a pharmacist. Different organization gives distinct responsibility to the pharmacist in a diabetic foot management team and often their role gets limited to drug related needs [15]. In some scenarios, the pharmacist may play a role in patient education on foot and nail care [16]. Although recommended and suggested about the importance of pharmacist, there is a lacuna in dictating the actual role, responsibilities, and skills of a pharmacist in wound management and its care. A recent document from the UK made the role of the Pharmacist apparent and invaluable [17].

However, it is seen from various published literature from different countries that there is no

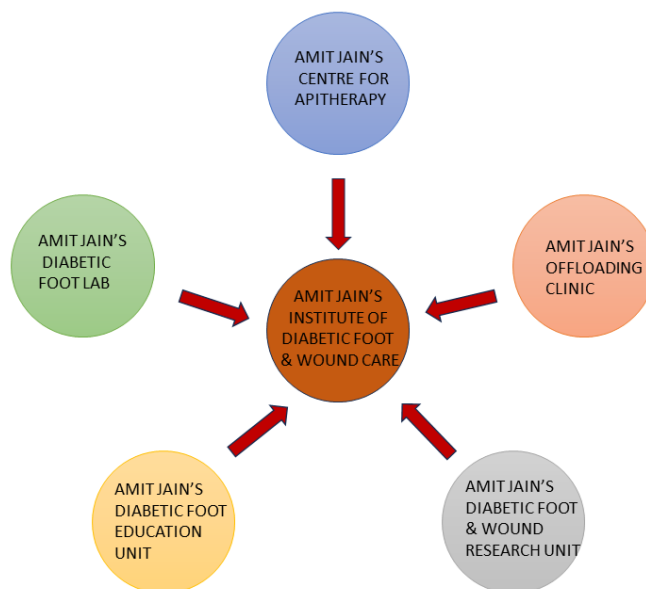
defined skills, training, and role of importance that a pharmacist can possess in a diabetic foot team. In a country like India, distinct qualifications of Pharmacist exist that has a duration of training ranging from 2 to 6 years and they include Diploma in Pharmacy [D pharm], Bachelors of Pharmacy [B Pharm], Masters of Pharmacy [M Pharm] and Doctor of Pharmacy [Pharm D]. Among all the said Pharmacy qualification, Pharm D is one of the longest courses in continuity of six years duration with it being the only one that has one year of compulsory internship in lines like a medical under graduate courses (MBBS, BAMS, etc).

A literature search was done and we were not able to find any Centre or hospital that describes the role of the pharmacy doctor (Pharm D) in a diabetic foot team. This unique article from Indian subcontinent for the first time aims to describe the role of a pharmacist from an expert diabetic foot Centre of high repute in India right from the initial inception of a pharmacist in a team to its training and highlights distinct responsibility given at this Centre over years. In nutshell, the author shares her journey as a Diabetic Foot Care Pharmacist.

## 2. THE MENTOR AND THE CENTRE

The most important move in a career of Pharm-D doctor is to choose a right mentor and a right Centre. The author would consider herself to be lucky as she was able to find both under one roof at Brindhavvan Areion Hospital, located in Bengaluru, India. The diabetic foot wing in this hospital is known as "Amit Jain's Institute of Diabetic Foot and Wound Care" [18]. This unique wing was named after Amit Jain in view of him, developing one of the first original innovative principle and practice of diabetic foot, which is now known as modern and super modern diabetic foot surgery with Dr Amit Jain being its Founding Father as per published literature [2, 18, 19]. This Institute also has distinct eponymous sub wings within it (Fig. 1).

Having noted Dr Amit Jain to have one of the strongest academic backgrounds, a dedicated and focused innovative work of excellence, it became crucial for me to be mentored by him and joined this Centre in 2018.



**Fig. 1. Showing different eponymous sub wings within the Amit Jain's Institute**

### 3. THE TRAINING

Having joined the team, the biggest challenges that had to be faced was understanding the diabetic foot disease overall, functioning of the diabetic foot Centre and the requirements to join clinical training program in diabetic foot wound care. Nothing related to diabetic foot and wound care was taught in the pharmacy training and all I knew was to take up the challenge in this field. The biggest advantage for me was that the institute functioned in the evenings and this benefited me the most as I could attend classes in the college as well as work in the evening.

Having proven my interest and dedication to this field over years, I was enrolled in a one-year clinical mentorship certificate program in the diabetic foot wound care, which was first of its kind in India for a Pharmacist and this was made possible only by my mentor Dr Amit Jain. For anything new to be acceptable by any organization or hospital requires a strong backup in practical life.

### 4. THE ABSORPTION

Having proven my interest and abilities after completion of my one-year full time clinical diabetic foot care training program, I believe that luck can strike to an individual twice only luckily and I was absorbed in this diabetic foot institute as one of the first consultant diabetic foot wound

care pharmacist and I was made the lead in charge who should handle the following eponymous sub wings of Amit Jain's Institute of Diabetic Foot and Wound Care.

#### 1] Amit Jain's Diabetic Foot Lab

During my initial months of working in the institute as an amateur, I had undergone observer ship and assisted Dr Amit Jain in doing various tests on foot consisting of Biothesiometry, Harris Pressure Mat studies, Ankle Brachial Index etc. This was a part of regular foot evaluation in diabetic foot patients. After having observed and supervised, hands on training on these were given to me for the next 100 patients and once the chief mentor was confident about my skill of doing these tests, I took over as a lead in charge of the Diabetic foot lab. Many nurses and health care professionals now come to observe and learn and few also join us as assistants.

#### 2] Amit Jain's Centre for Apitherapy

This named sub wing was established in the year 2020 [20] within the institute to treat wounds with medicated honey and this sub wing aimed at acquisition, sterilization, storage, teaching, propagating benefits of honey on wound and publishing the research work on it [20, 21, 22]. This unique wing was first of its kind being named again after Amit Jain.

During my training period, I was assisting, learning, and independently doing wound care dressings. Later, I was chosen to complete my six months of certified training in wound care apitherapy from the Institute which also was first of its kind in the country.

Honey was used occasionally for years at this Centre pre covid and its benefits were known [23]. A special sub wing was later established in year 2020 wherein Indian honey, especially from Apis species, was predominantly used on wounds frequently, especially in multidrug resistant infection.

Unique and simple research were also carried out from this wing [24, 25, 26].

Today being a lead in charge and a wound care apitherapist, I continue using different types of honey on different wound (Fig. 2) and run a short observational training for nurses and other interested candidates on usage of honey on

different wounds. I have also been involved in research and publication on honey [20, 22,23,25].

### 3] Amit Jain's Offloading Clinic

Offloading is an important yet neglected part in diabetic foot care [27]. Keeping in mind the essentiality of offloading and the innovative work by Amit Jain on offloading in diabetic foot from India [28, 29, 30], this new sub wing was named after Amit Jain in year 2020 [31].

Having understood, assisted, and learnt different offloading techniques from this institute under supervision of Dr Amit Jain over years (Fig. 3), I started using different offloading methods. I even provide training on Type 1 offloading [28, 32] to nurses and other interested paramedics in view of its simplicity and ease. Further, we have also done research on offloading [32, 33].



Fig. 2. Showing application of honey on wounds



Fig. 3. Showing training and learning of offloading (TCC) under supervision







**Fig. 6. Showing “The Amit Jain- Apoorva Show” that is run at different places aimed at providing education on diabetic foot**

For years, diabetic foot education was one of the most important priority and vision of our chief mentor Dr Amit Jain who aimed at bringing a decline in diabetic foot complications and amputation and this was done through Amit Jain’s project for diabetic foot which is one of India’s largest independent philanthropic projects [35,36] and through Amit Jain’s Diabetic foot education unit.

Today, various educational diabetic foot program is run by a new innovative way of teaching through ‘The Amit Jain’s Show’ and its version ‘The Amit Jain’s –Apoorva Show’ wherein we both together provide a state of art education (Fig. 6) in a unique way [37]. To best of my knowledge, this is first of its kind in India wherein a duo (Surgeon & Pharmacist as well as a Teacher & Student) runs an educative event together and this is now serving as an example in the industry. Through this education unit, we have started teaching different healthcare professionals including nurses, doctors, and pharmacists on various aspect of diabetic foot [2].

## 5. CONCLUSION

Diabetic foot today is an extremely common condition and may require multi-disciplinary approach. Different experts have distinct role to be played depending upon the Centre. This article for the first time has highlighted the regular and an expanded role of a pharmacist doctor from an expert diabetic foot Centre of high repute in academic field and if appropriately mentored and trained from an expert mentor, then one can choose and raise one’s career from a pharmacist to an expert diabetic foot wound care pharmacist like the author herself.

## CONSENT AND ETHICAL APPROVAL

It is not applicable.

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## COMPETING INTERESTS

Author has declared that no competing interests exist.

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