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Pharmaceutical Translational Science

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Abstract

The various branches of science are expanding at a breakneck pace and a vast amount of new information is gradually being discovered and incorporated into the existing human knowledge. Without a doubt, pharmaceutical sciences are one of the most dynamic fields of science because their content is derived from a variety of basic and applied researches, such as those in engineering, biochemistry, biology, pharmacology and pharmacotherapy. These explores are intended to comprehend how to foster new medications, upgrade their conveyance to the body and make an interpretation of these coordinated comprehension into new treatments against human infection as well as further developed local area wellbeing.

Keywords: Pharmaceutical innovation • Dosage form design • Pharmaceutics

Introduction

Although in recent times the primary focus has been on integrating advances in the biomedical field with clinical practice—that is, taking research from the "bench" to the "bedside," for example—in modern times, "translational medicine" places an emphasis on translating basic scientific findings in the bench-side into potential treatments for disease and to improve public health. In this approach, a combination of disciplines, resources, expertise and techniques within the three main pillars of "bench-side," "bedside," and " Economic evaluations and commercialization play an important role in translational research here as well [1].

Literature Review

David Redfern, Chief Strategy Officer for GlaxoSmithKline, spoke about the need for pharma to change at a recent Economist summit on pharma. “The (current challenges) have the capacity...to fundamentally change and almost destroy the entire industry... if your business model isn't any good you have to change everything you do,” asserts Redfern. He also said that the blockbuster drug funding model might be used for the last time for R&D spending this year. His vision of the future is based on a number of principles, including the elimination of extensive strategic programs, globalization of markets and R&D, accountability, increased innovation and risk, transparency, philanthropy and investment in pharma's stakeholders (such as the infrastructures of developing nations, green initiatives, orphan drugs and so on) [2].

Discussion

The application of nanotechnology in medicine and pharmacy has opened up novel and exciting possibilities for the treatment, diagnosis and prevention of numerous diseases. It is anticipated that the approval of new nanotechnology-based medical products will grow exponentially over the next few years. This is in contrast to what could be perceived as a novel field with relatively limited practical value. While some nanotechnology-based medical products are just now entering the market, others have already been used in daily clinical practice for several decades, with applications in drug delivery, vaccines, medical imaging, diagnostics, medical devices or tissue engineering and regenerative medicine.3-8 To meet professional demands and challenges, pharmacists now and in the future, along with doctors and other health care providers, are expected to be familiar with fundamental knowledge and key concepts of nanotechnology, particularly those related to medical applications.

This special issue contains the last five papers on the design of topical dosage forms. The development of a polymeric nanofiber patch for topical disease treatment based on polyvinyl alcohol and tamarind seed gum using electrohydrodynamic atomization was described in the paper by Tanikan Sangnim and coworkers titled "Design and characterization of clindamycin-loaded nanofiber patches composed of polyvinyl alcohol and tamarind seed gum and fabricated by electrohydrodynamic atomization." The arranged nanofiber patches with a decent skin adherence, clarity and ventilation properties were gotten. They also discovered that clindamycin-loaded nanofiber patches are more effective than commercially available clindamycin gels at stopping the growth of Staphylococcus aureus. Nawinda Chinatangkul and partners present a paper, "Plan and portrayal of monolaurin stacked electrospun shellac nanofibers with antimicrobial movement", which detailed the improvement of shellac nanofibers stacked with an antimicrobial monolaurin. They explained the enhanced creation factors impacting the development and properties of shellac nanofibers utilizing a full factorial plan. In addition, the kill-kinetic studies revealed that monolaurin-loaded shellac nanofibers had excellent antibacterial activity against Staphylococcus aureus, whereas the hydrophilic structure of Escherichia coli's outer membrane prevented it from being affected as much. Monolaurin also reduced the number of Candida albicans colonies, which resulted in an antifungal effect.

The International Pharmaceutical Federation's (FIP) Board of Pharmaceutical Sciences (BPS) outlook for the pharmaceutical sciences in 2020 has been developed. This came after a global conference where invited experts from a variety of fields (academicians, scientists, regulators, industrialists, venture capitalists) discussed the forces that could shape the pharmaceutical sciences in 2020. To meet the needs of academia, industry and regulatory institutions for pharmaceutical sciences in 2020, this commentary provides a summary of the major research activities that will drive drug discovery and development, enabling technologies for pharmaceutical sciences, paradigm shifts in drug discovery and development and changes in education. Traditionally, faculty members at pharmacy schools and colleges are expected to be involved in three areas: scholarship, service and instruction Because it prepares students for success after graduation, teaching serves an obvious function in educational establishments. Scholarships are a way for faculty members to stay current in their field, improve their teaching, attract funding from outside sources and demonstrate the quality of their institution [3-6].

Conclusion

Service promotes and advances the professional communities to which faculty members belong, strengthens the institution's connections to its local community and provides self-governance for the institution. The institution's mission and the overall effectiveness of the faculty in all three areas are important. The proportion of time spent by faculty members in these three

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areas varies depending on the institutional mission and frequently on individual faculty members' job descriptions and career objectives. Faculty members must demonstrate their proficiency in these areas in order to progress through the promotion and tenure processes.

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Conflict of Interest

There are no conflicts of interest by author.

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