Comic Life App: A novel way to teach antimicrobial stewardship to pharmacists

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**Background:** Escalating antimicrobial resistance has created the need for multidisciplinary antibiotic stewardship programs (ABS). South Africa lacks infectious diseases trained clinical pharmacists. Netcare Linksfield Hospital ABS participated in a global mentoring program with infectious diseases (ID) pharmacists from The Ohio State University Wexner Medical Center stewardship programme in the United States. One of the goals was to develop educational tools to teach general stewardship concepts to non-ID trained pharmacists at Netcare Linksfield Hospital. Historically, several attempts have been tried using traditional methods of teaching with limited success and engagement by the pharmacists. The purpose of this project was to develop a non-traditional educational ABS tool that would engage the pharmacist and improve their infectious diseases knowledge.

**Methods & Materials:** The Comic Life app was used to develop a book titled “South Africa the Antibiotic Horse Has Bolted; A Guide to Antibiotic Stewardship”. The document teaches why ABS is necessary, describes the most common gram positive, gram negative, anaerobic and atypical organisms which antibiotics are used to treat these organisms, and clinical pearls specific to the hospital. The final pages provide all antibiotics and antifungals available in South Africa, their route of administration and spectrum of activity.

Learning outcome was measured by a pre/post quiz. The pharmacists were instructed to take the quiz without any preparation. A week later the comic book was given to each pharmacist and the concepts were taught by the clinical pharmacist who completed the OSUWMC mentoring program. A post-test was then administered in addition to a satisfaction survey. Statistical analysis was done using the t-test.

**Results:** Pharmacists’ ID knowledge of ABS significantly improved after using the comic book to learn ABS (the mean of the pre-tests 66% vs. the mean of the post-test 96% p=0.0001). The satisfaction survey showed 100% of pharmacist responded favorably to this method of learning.

**Conclusion:** The Comic Life app provides a novel method of teaching ABS to pharmacists. Further topics on antibiotic stewardship will be developed and taught using this method. Due to the success of this teaching method the comic book will be used in all 54 Netcare hospitals to improve the ID knowledge of pharmacist.