EDITORIAL

Making Infection Prevention and Control Smarter and User-friendly

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One of the major challenges in the implementation of Infection prevention and control (IPC) practices in healthcare facilities is the training of healthcare workers (HCWs), and more importantly the provision of or access to the right reference material / manual that can be used quickly in a specific clinical situation.[1] This problem was more evident during COVID-19 pandemic[2] when it was not possible to conduct frequent IPC training sessions or workshops for the hospital staff.[3] Additionally, misuse or inappropriate use of personal protective equipment (PPE) was observed regularly; overdone when it was not needed and underdone when it was required.

With this background, we share the experience of "Infection Prevention & Control (IPC) Committee" of Lahore General Hospital (LGH). An infection control manual compiled by the committee was shared as a hard copy for use in the hospital. After a year of distribution and placement of the manual in clinical areas, an audit was conducted to find out how many HCWs consulted it for retrieval of information about different aspects of infection control. The results revealed that only 15% HCWs consulted the manuals, despite the provision of hard copies in all the wards and sharing of PDFs of the same manual in relevant fora.

To circumvent this issue, it was decided by the IPC Committee of LGH to develop an application (app) using the smartphone as the medium to provide some basic and to-the-point guidelines about IPC practices in the healthcare setting. The information technology company working in the hospital was asked to provide technical help in this regard. The website (ipcguidelines.pk) and application, https:/play.google.com/store/apps/details?id=com.doctor.infectioncontrol were developed and launched simultaneously, comprising the same content but with the convenience of being displayed on various sources like mobile phones, laptops, and desktops. The app has twelve main domains covering the basic IPC requirements for doctors, nurses, and support staff (Fig:1).

The basic aim was to keep the app simple so that workers having different educational backgrounds can use it in urgent situations with ease. Each page shows only the main headings and relevant information. Various hyperlinks have been provided which are embedded in each domain for further information. For example, on the page which depicts five moments of hand hygiene, hyperlinks have been incorporated to further elaborate a particular moment. Similarly, for aerosol-generating procedures, as an indication to use the N-95 mask, a hyperlink has been provided which

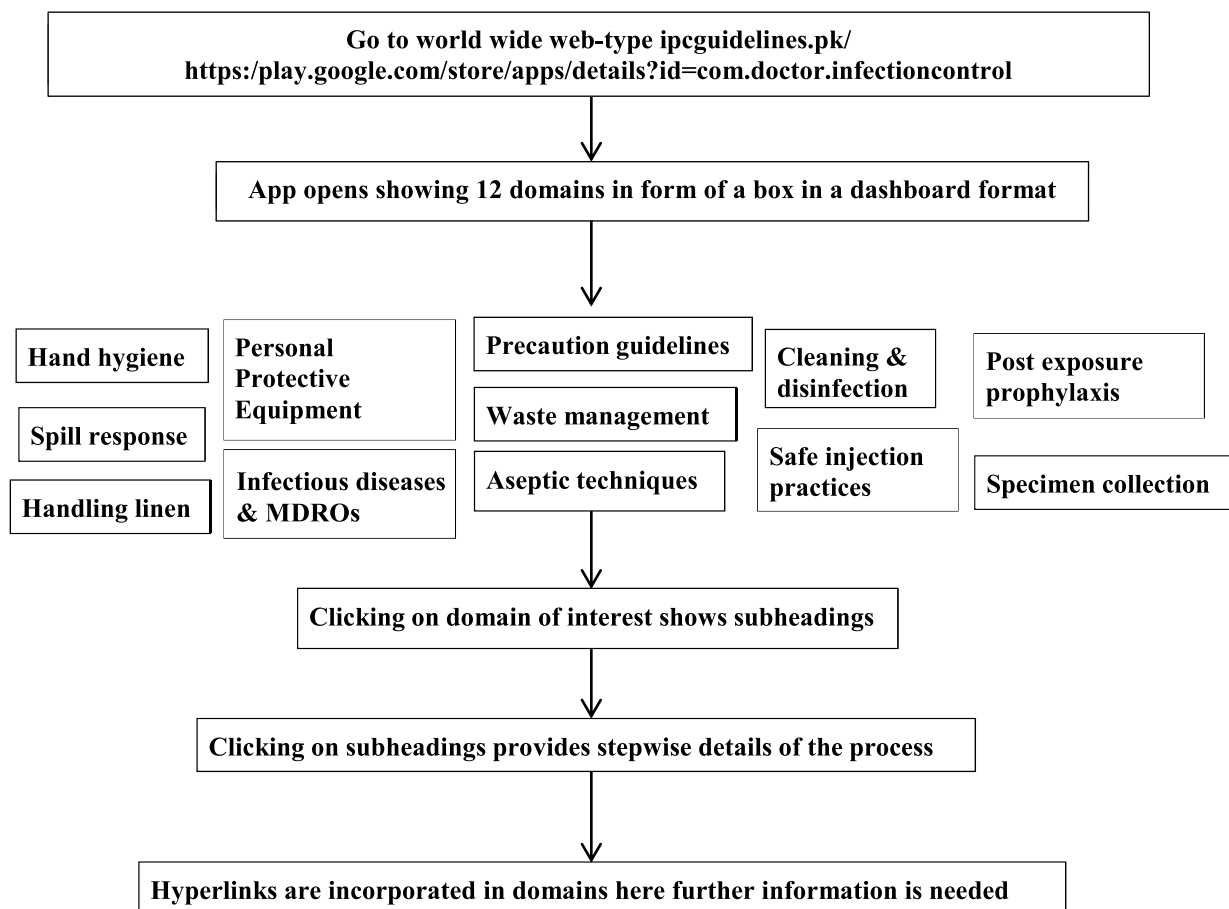leads to the list of aerosol- generating procedures.

A section for "Specimen Collection", provides the information and methodology for collection of microbiological samples for carrying out routine culture and sensitivity. Special efforts have been put to give the information about important infectious agents, modes of transmission, types of precautions that are required in each setting and the duration or period of infectivity for common infectious diseases, including multi-drug resistant organisms (MDROs).

Another significant feature of this app, especially meant for the support staff, is translation of guidelines into Urdu language. The complete sections of hand hygiene, precaution guidelines, waste management, handling linen, spill response, precaution guidelines, cleaning and disinfection have been translated into the local language. The app is available both for android and Apple phones and can be downloaded free of cost from Google play store and Apple store respectively.

In addition, the information can be directly obtained from the website if the app is not downloaded on the mobile device. The provision of basic IPC guidelines in the form of an easy-to-use free app can make the infection prevention and control easier for the healthcare workers.

Figure 1: Flowchart showing features of "Infection Prevention & Control Guideline App"


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┌──────────────────────────────────────────────────────────────────┐
│         Go to world wide web-type ipcguidelines.pk/               │
│  https:/play.google.com/store/apps/details?id=com.doctor.infectioncontrol │
└──────────────────────────────────────────────────────────────────┘
                                │
                                ▼
┌──────────────────────────────────────────────────────────────────┐
│     App opens showing 12 domains in form of a box in a dashboard format │
└──────────────────────────────────────────────────────────────────┘
                                │
                                ▼

Hand hygiene    Personal Protective    Precaution guidelines    Cleaning &        Post exposure
                Equipment                                        disinfection      prophylaxis
Spill response                         Waste management
                                                                 Safe injection
Handling linen  Infectious diseases    Aseptic techniques        practices         Specimen collection
                & MDROs

                                │
                                ▼
┌──────────────────────────────────────────────────────────────────┐
│          Clicking on domain of interest shows subheadings          │
└──────────────────────────────────────────────────────────────────┘
                                │
                                ▼
┌──────────────────────────────────────────────────────────────────┐
│       Clicking on subheadings provides stepwise details of the process │
└──────────────────────────────────────────────────────────────────┘
                                │
                                ▼
┌──────────────────────────────────────────────────────────────────┐
│   Hyperlinks are incorporated in domains here further information is needed │
└──────────────────────────────────────────────────────────────────┘
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