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Innovative Application of Selfie Stick with a Tripod for Smart Phone Based Video Conferencing in Telemedicine

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Abstract

Videoconferencing and live surgical workshops are an integral part of plastic surgical training and practice. It may be difficult to follow through the whole procedure staying at one place as they may last for a long duration. We would like to present an innovative application of selfie stick with a tripod for video conferencing in telemedicine.

Keywords: Selfie stick; Video conferencing; Telemedicine..

Introduction

Smart phones are a part of our day to day activities. Smart phones have replaced the conventional camera for digital imaging and record keeping.

They are also used for video conferencing, for live workshops. Operative videos are a part of record-keeping, teaching, and knowledge sharing instruments among plastic surgery fraternity.[1]

But it becomes cumbersome to use the phone or video recording equipment for a prolonged period of time as we have to hold them in our hand and also we have to be stagnant at one place. Selfie sticks with Bluetooth control are being used for these purposes in various places.[2]

Tripods have been used for video recording using smart phones. This reduces the need for an assistant.

We would like to present one such innovative application of selfie stick with a tripod for video conferencing.

Materials and methods

- A selfie stick with a detachable tripod stand with a slot for the smart phone [Android/iOS] (**Fig. 1**)
- The tripod was made of plastic and the selfie stick which was of adjustable length was made of aluminum.
- Bluetooth remote (**Fig. 2**)
- Android or iOS-based smart phone with Bluetooth connectivity and atleast 3G internet connectivity
- A commercially available selfie stick with a tripod and Bluetooth remote was obtained. We connected this with an android based smart phone [version 9]

This was used for video conferencing and telemedicine using Wi-fi with skype calling facility (**Fig. 3–5**). Calls may be made through any of the

video calling applications available online.

Feedback was obtained from users based on a questionnaire (**Fig. 6**).

Fig. 1: Selfie stick with detachable tripod stand and Bluetooth.

Fig. 2: Bluetooth remote for operating the mobile device.

Fig. 3: Selfie stick with tripod.

Fig. 4: On going video-conferencing.

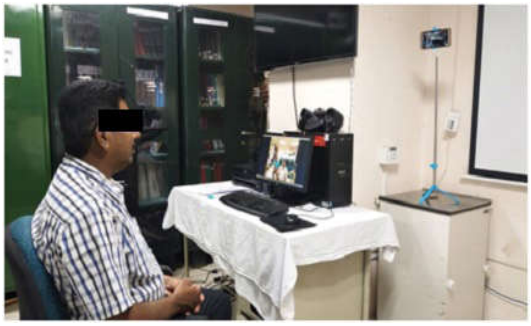

Fig. 5: Screen mirroring for larger audience.

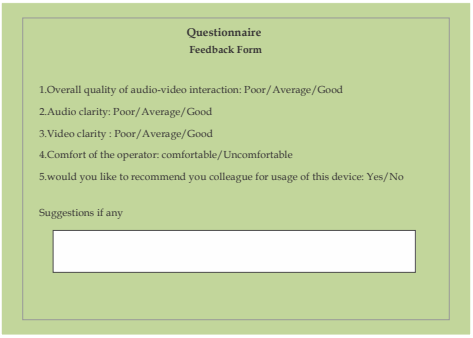

Fig. 6: Feedback forms.

Results

The device was used by 5 different users for telemedicine and video conferencing. The users found it a helpful tool and would recommend it to their peers. All of them found the audiovisual quality satisfactory. All the users found it easy to use.

Discussion

Video conferencing in telemedicine is a process that can be used to attend meetings, do live workshops of surgeries, etc. While video conferencing or watching live surgeries we have to sit in front of a desktop or laptop at one place as most of these procedures take a lot of time.

It may be difficult for busy surgeons to dedicate such a large amount of time in one place. In such times, while on the go, we can hold the phone in our hand or use a selfie stick to hold the smart phone and continue with the video conferencing. However, arm fatigue is a common problem after a few minutes. In such situations, a selfie stick with tripod may be used to hold the smart phone and the conference may be continued. It may also be connected to a projector for a larger audience. In rural settings where setting up of a projector may be difficult, selfie stick with tripod may be of immense help especially when a large audience is involved.

Most of the videoconferencing equipment are expensive, need a formal setup and large space. This innovative cost-effective use of selfie stick with tripod may help, not only to individual surgeons but also to a large audience, especially in small, rural areas where formal setup may not be possible.

The drawback of this is that only a small mobile screen is available of teleconferencing. Another disadvantage is the need for good Wi-fi or mobile network connectivity with 3G or 4G is required for better audiovisual quality.

Conclusion

This innovative cost-effective selfie stick with tripod may be useful in telemedicine.

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