ABSTRACT
Provision of health care facilities and the extent of their utilization is one of the indices of human development [1]. There are various means of providing these facilities. Medical and Dental colleges play an important role in providing health care services and even educating new professionals to provide these services. The services for the masses need to be designed with the basic objective of alleviating and preventing the vast amounts of diseases of the mass. This could be achieved by mobile dental units (MDUs). The present systematic review access the efficacy of MDUs for community settings. A review of literature was performed both electronically and manually using MeSH Terms- Mobile Dental Units/clinics.

Eight articles, which fulfilled inclusion and exclusion criteria were selected for the review. MDUs help in overcoming the accessibility, affordability and sustainability barrier. They are able to reach more people than fixed-site clinics. Even in Government sector, mobile dental vans can help reach the underserved at an affordable cost. The present systematic review revealed that MDUs prove to be an effective adjunct to the oral health service providers like dental colleges and private practitioners.

INTRODUCTION
Provision of health care facilities and the extent of their utilization is one of the indices of human development [1]. There are various means of providing these facilities. Medical and Dental colleges play an important role in providing health care services and even educating new professionals to provide these services. The services for the masses need to be designed with the basic objective of alleviating and preventing the vast amounts of diseases of the mass. This could be achieved by mobile dental units (MDUs). The present systematic review access the efficacy of MDUs for community settings. A review of literature was performed both electronically and manually using MeSH Terms- Mobile Dental Units/clinics.

Eight articles, which fulfilled inclusion and exclusion criteria were selected for the review. MDUs help in overcoming the accessibility, affordability and sustainability barrier. They are able to reach more people than fixed-site clinics. Even in Government sector, mobile dental vans can help reach the underserved at an affordable cost. The present systematic review revealed that MDUs prove to be an effective adjunct to the oral health service providers like dental colleges and private practitioners.

Types of services provided by mobile health/ Dental units
Basic function of Mobile Health/Dental Units is “To serve as ancillary services to the operations of the recipient hospitals most especially in priority, underserved, hard to reach and remote areas.” There are a variety of service delivery configurations utilized by organizations that operate mobile health units. Services range from comprehensive primary care to discrete selected services. For example, tertiary care facilities (hospitals) and stationary clinics may use MDUs to provide basic primary care services or specific screening services such as oral cancer screening, hypertension and diabetes screening, and to extend wellness services (e.g., provision of immunizations—childhood, influenza and pneumonia) to vulnerable populations (children and the elderly) [7]. Similarly, MDUs have also been used to serve the remote areas to provide basic dental health care including oral prophylaxis, restorations, extractions. MDUs have also been found good in imparting oral health education, oral hygiene instructions etc. In India primary health care services are provided with help of MDUs. Vulnerable and hard-to-reach populations have been found to be more responsive to “alternative” health care delivery venues and methods [8].

Following barriers are crossed by mobile dental services
A number of other social, cultural and environmental factors limit access to health care in many countries especially for the growing minority population which includes transportation, discrimination, cultural values, lack of culturally appropriate services, language barriers, religious differences, and dissatisfaction with health provider in particular or distrust of health system in general [9]. According to Shobha Tandon et al., mobile dental services have proved to be an effective adjunct to the oral health service providers like dental colleges and private practitioners. They act as the first form of exposure to educate the rural people and alleviate them of their oral health care needs. MDUs is also a mean of comprehensive oral health care provider with oral health treatment and education being provided to the rural population at the same place [10].

Evaluation of MDUs
The efficacy of MDUs appears to be generally accepted though few reports of evaluation studies were found in the literature.
RESULTS

1. Howard Bailit, Tryfon Beazoglou, and Margaret Drozdowski [12]: Analysed a model for a school-based program designed to reduce dental access disparities by examining its financial feasibility. Hygienists provided screening and preventive services in schools using portable/mobile equipment and generated surplus funds that were used to supplement payments to community clinics and private practices for treating children thus, showing considerable promise for reducing access disparities.

2. Erika Dawkins, Akihiko Michimi, Gregory Ellis-Griffith [13]: Conducted a study on children aged 6 to 15 years who participated in the school-based dental sealant program through the mobile dental clinic. The proportion of untreated dental caries was higher in children with no insurance and living in rural residential locations.

3. Jackson DM [14]: Describes the creation and evolution of the St. David's Dental Program, a mobile school-based dental program for children. Since 1998, the program has provided 132,791 screenings for oral health treatment needs and 38,634 encounters for sealants or treatment.

4. Werner CW, Gragg PP, Geurink KM [15]: At the Saint Philip of Jesus Clinic, and at the Willows Development Center for Severely and Profoundly Mentally Retarded, used dental van to provide preventive and restorative care. An average of eight preventive procedures, seven fillings, two sealants and one extraction or referral were provided each working day. Dental van programs promoted access to dental care and increase the visibility of dental schools within the university and community.

5. Rudolph MJ, Chikte UM, Lewis HA [16]: Conducted a study which indicated a great need for dental treatment and preventive services in dentally underserved communities in southern Africa. This project described the evolution and utilization of a unique, purpose-built, MDU. From a compact 2 x 2.5 meter box trailer, an enclosed area of 8 x 9 meters is formed by deploying a cover system housed on top of the trailer. Once deployed, the unit becomes four fully equipped dental operatories and a combined waiting and educational area, with all-weather protection.

6. Douglass JM [17]: Conducted a study on many children, especially those from lower socio-economic families, with Mobile dental clinics have been implemented in many communities to address their issues. Structured surveys were sent to the three mobile programs in Connecticut to collect information on the age of the program, issues encountered in planning and implementation, and ongoing costs and productivity.

7. Shobha Tandon et al., [10]: Had undertaken the study with the objective to assess the utility of a Mobile Dental Clinic to provide oral health services to the rural population. Mobile dental clinic proved to be an effective adjunct to the oral health service providers like dental colleges and private practitioners.

8. Mulligan R [18]: Investigated the oral health status, access, and the role of mobile dental clinics in improving the oral health of migrant children. It was observed that dental needs are high among migrant children and Mobile clinics provided a safety net for them. [Table/Fig-2] show studies undertaken on MDUs treatment provided and barriers.

DISCUSSION

The present review revealed a growing interest in the use of portable dental units especially for public health services. In fact, the efficacy of Mobile dental vans in the treatment of oral health problems was found to be high in community outreach programmes. In the study...
done by Howard Bailit et al., [12] it was found that the proposed school-based dental program based on MDUs had a reasonably good chance of being successful financially if Medicaid are at a certain level. That implies that with the government support mobile dental units can easily overcome the affordability barrier along with the accessibility barrier. In another study by Shobha Tandon et al., [10] it was found that MDU act as the first form of exposure to educate the rural people and alleviate their apprehensions towards oral health care. Although, MDUs and Mobile dental services have been found to benefit people especially the rural population which is generally underserved because of lack of transportation Daiski I [11]. The decision to utilize mobile dental clinics should be made cautiously as there are many pitfalls and failed programs. In a national survey of dental school mobile units, nine were operational, three were being planned and two were discontinued. It is important during planning to speak to managers of other programs that are similar in terms of climate; geographic area; target population; services delivered; and parent organization. Each of these factors has unique implications for the design, implementation, management and sustainability of programs [19]. Preventive services are typically more cost effective and easier to deliver than restorative services. A program in Pender County, North Carolina abandoned providing restorative services as the limited space hampered the effectiveness of the dentist. They now utilize a fixed site that works in conjunction with their mobile program [19]. Mobile dental clinics provide an innovative solution to providing dental care to underserved children. They decrease missed appointments when run in conjunction with schools, and directly address transportation problems, a frequently cited factor contributing to “no shows”.

Government of India have provided mobile dental vans (MDV) to many dental colleges which is fully equipped to deliver necessary health care at the doorstep of villages, school and community. This is the perfect example of Public –Private partnership which has helped to cater the needs of underserved [20]. A GOI-WHO (Government of India – World Health Organization) collaborative program (2008-09) studied the utility of MDV in rural population around Lucknow, India [21]. It was found that oral-dental treatment performed as well as awareness generated through MDV during the project period was significant. Based on the outcome, it was proposed that MDVs can be a useful adjunct to the existing system of health care delivery. The Dental council of India in its revised ordinance for Masters in Dental Surgery (MDS) in Public Health Dentistry has mandated each dental institution to procure a MDV to provide services to the underserved population [22]. Thus, active participation of Government sector can markedly improve the health status of our community.

**CONCLUSION**

The present systematic review revealed that MDUs prove to be an effective adjunct to the oral health service providers like dental colleges and private practitioners. They act as the first form of exposure to educate the rural people and alleviate their oral health care needs. They can also be used as a means to provide comprehensive oral health care which includes oral health treatment and education being provided to the underserved population at the same place and same time. However, the limitations of the systematic review was that it did not evaluated the efficacy of MDUs specifically to determine if there is evidence that the presence of such programs could contribute positively to the overall oral health outcomes. Further, longitudinal clinical studies are required to assess the long term benefits of the use of MDUs at community level. However, even with the limited literature available at present regarding the efficacy and role of mobile dental units independently, their future looks promising regarding filling the gap between health care facilities provision and utilization.

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