ORIGINAL RESEARCH

To determine factors responsible for unequal distribution of dental professionals

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ABSTRACT

Background: Dental practitioners such as dentists, dental therapists, dental hygienists, oral health therapists and dental prosthetists/dental technicians provide important primary health care services to rural populations. The present study was conducted to determine factors responsible for unequal distribution of dental professional. **Materials & Methods:** The present study included randomized and non-randomized controlled trials, controlled before-and-after studies, meta- analysis and interrupted time series. **Results:**Out of 115 studies, 35 were Pubmed, 55 were Pubmed central and 25 were Medline. The difference was significant (P- 0.05). Studies from 1980- 2000 revealed 6% increase in dentists, 2000- 2010 showed 14.8% increase while 2010- 2015 showed 21.2% increase in dentists. The difference was significant (P<0.05). **Conclusion:** The most important influences on rural dental practitioner workforce recruitment and retention were a combination of financial reimbursement and personal reasons.

Key words: Dental practitioner, Oral health therapists, Pubmed.

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INTRODUCTION

Health personnel planning are the process whereby a determination is made regarding the appropriate numbers, types, and distribution of individuals capable of providing health services to achieve a desired goal or health outcome. There is a globally observed unequal distribution of health practitioners between urban and rural areas in OECD countries. The determination of necessary personnel levels is based on the relation between the variables of consumer's need or demand and the availability or supply of dental care. Their interaction defines the ultimate utilization of dental services and, to some degree, the health status of the population. Personnel planning relate these variables in a manner that, ideally, permits accurate prediction of future personnel requirements.[1]

Dental practitioners such as dentists, dental therapists, dental hygienists, oral health therapists and dental prosthetists/dental technicians provide important primary health care services to rural populations. Workforce shortages and stability issues in underserved areas can have negative effects on rural communities.[2] Successful recruitment initiatives and long-term retention schemes for rural dental practitioners are important to improve the oral health of people in underserved areas. Demand and supply are not global parameters; in contrast, they are spatially specific, as is the resulting access. On the one hand, demography and oral health- related morbidity of a population, their perceived needs and the resulting demands are spatially specific.[3] The present study was conducted to determine unequal distribution of dental professional in India by assessing studies.

MATERIALS & METHODS

The present study was conducted in the department of Oral Medicine & Radiology. The study was approved from the institutional ethical committee. It comprised of randomized and non-randomized controlled trials, controlled before- and-after studies, meta- analysis and interrupted time series. Electronic databases such as Pubmed, Pubmed central, Cochrane central, Medline, Embase, CINAHL) were included. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

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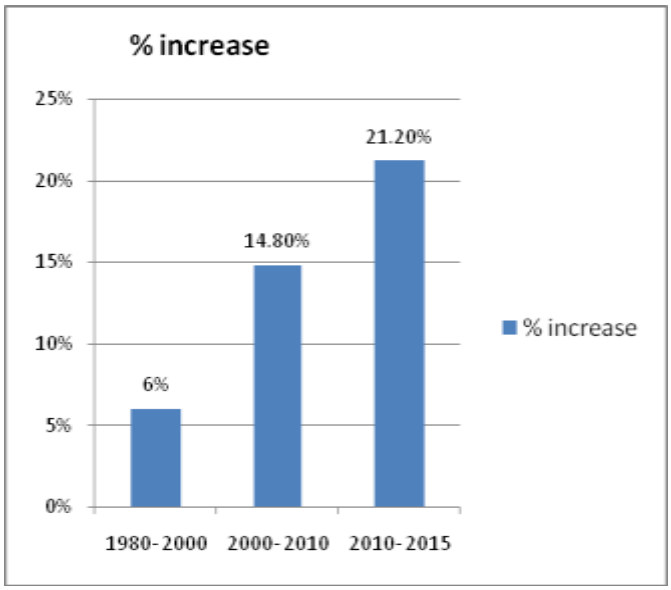
RESULTS

Table I Total articles studied

Data	Total- 115	
	Number	P value
Pubmed	35	0.05
Pubmed central	55	
Medline	25	

Table I shows that out of 115 studies, 35 were Pubmed, 55 were Pubmed central and 25 were Medline. The difference was significant (P- 0.05).

Graph I Year wise distribution of studies and increase in % of dentists



Graph I shows that studies from 1980- 2000 revealed 6% increase in dentists, 2000- 2010 showed 14.8% increase while 2010- 2015 showed 21.2% increase in dentists. The difference was significant (P<0.05).

DISCUSSION

With the increase in population, the number of dentists is also increasing day by day. Current evidence indicates that dentists and dental care professionals such as therapists or hygienists, do not decide their practice location based only on demand considerations but also on several other factors, such as affection for a specific area, availability of staff and local amenities, and financial considerations of future practice.[4] As a result, the spatially specific supply and also the resulting demand–supply ratio is polarized in many countries, with certain areas being under-serviced and other areas being over-serviced.[5] The present study was conducted to determine unequal distribution of dental professional in India by assessing studies.

In present study, out of 115 studies, 35 were Pubmed, 55 were Pubmed central and 25 were Medline. The productionof dental services is strongly influenced by the accessibilityof personnel, because the provision of dental services is labor intensive. This dependence on personnel supply, attached with the long training time required for dentists, means that required changes in future personnel levels required to be anticipated years in advance. Thus the dependability of any personnel planning model will be strongly influenced by its ability to estimate future need and demand levels.[6]

We included studies from 1980- 2000 which showed 6% increase in dentists, 2000- 2010 showed 14.8% increase while 2010- 2015 showed 21.2% increase in dentists. The problems associated with workforce stability of dental practitioners reflected those outlined in other health disciplines. It appears that, despite government intervention, the forces that attract and retain healthcare providers in metropolitan areas and the incentives from working there are unable to be matched by smaller communities. Rural communities share some characteristics that can negatively influence the manner in which health care is provided and rural populations attend dental servicesless often than urban populations.[7]

Studies suggested educational interventions such as selection criteria are tailored to attract students with affinity to underserved areas, and admissions to medical/dental school are selective; teaching curricula include exposure to underserved regions via clerkships and raise interest for working in such areas.

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Table II Some of studies done by different authors[8,9,10]

Authors	Subjects	Methods	Outcome
Bazargan et al.	688	storicaldata	Unlikely to increase workforce in vulnerable areas
Campbell et al.	35 articles	Literature Review	Identified factors that can lead to high staff turnover and decreased job satisfaction
Daniels et al.	Survey	1135	Health professionals from rural backgrounds and with increased age at graduation were more likely to work in rural areas/also identified important social factors and attitudes

Prior rural exposure was a common theme in the literature; it was suggested to be the most significant factor in determining the likelihood of rural practice recruitment and retention for dental practitioners. This term encompassed hypothesises that dental practitioners with a rural upbringing or had participated in rural placement programs during their training were more likelyto work in rural practice and for longer periods of time than their urban counterparts.

The majority of existing studies have focussed on educational interventions (such as selective admission; forexample, recruiting students from rural areas or those with affinity to rural practice, or rural externships) or coercive (financial) policies associated with education (such as student loans or scholarships conditioned to rural service postgraduation). No study was found which reported on the effects of establishing rural dental schools but several initiatives in this direction were planned or theoretically evaluated.[11] In general, education policies seem promising, with normative strategies (selective admission) having the additional advantage of not requiring large investments or administrative efforts.

CONCLUSION

Author concluded that the most important influences on rural dental practitioner workforce recruitment and retention were a combination of financial reimbursement and personal reasons.

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