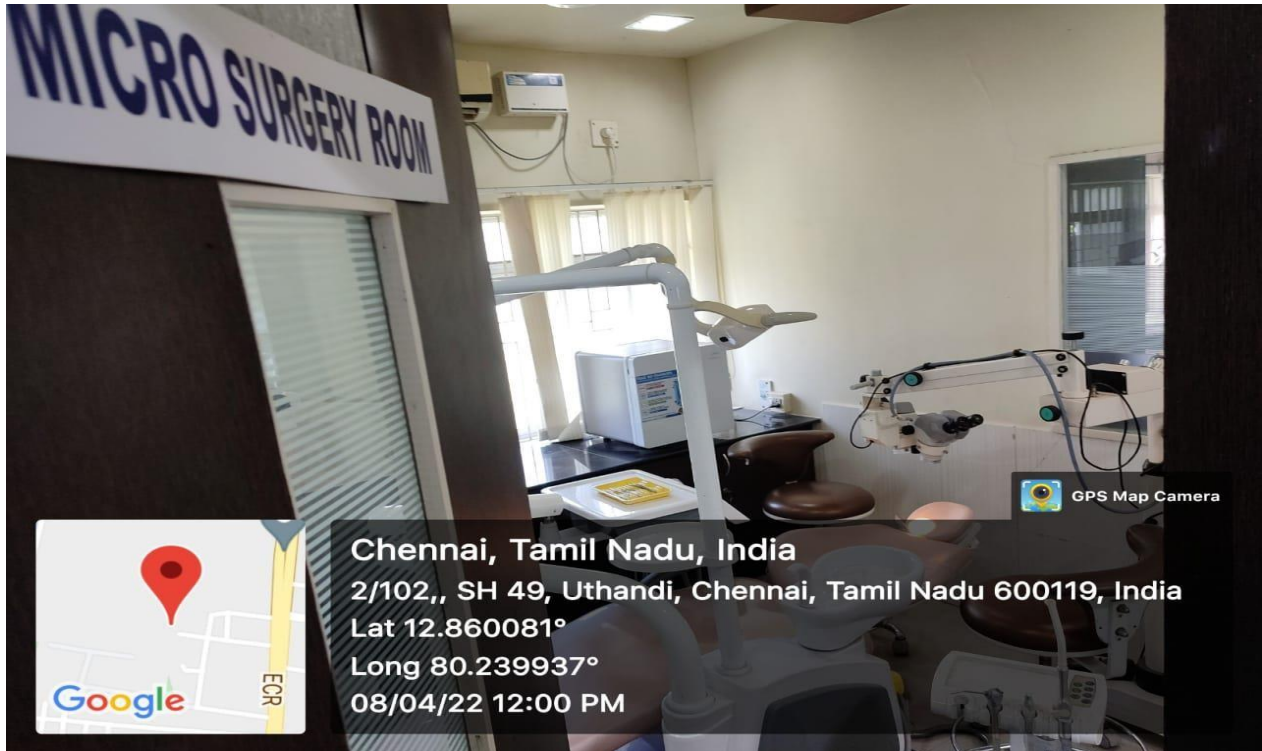


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7.2.1 INSTITUTIONAL BEST PRACTICES

MICRO SURGERY





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DISABLE AIDED DENTISTRY (DAD)

To identify the barriers faced by the children with special needs a mixed method research was conducted by our department

Barriers in Dental Care Delivery for Children with Special Needs in Chennai, India: A Mixed Method Research

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ABSTRACT

Purpose: The study aimed to assess the barriers faced by children with disability, both qualitatively and quantitatively, from the perspectives of caregivers and dental practitioners.

Methods: A concurrent mixed method design was used. A sample of 195 dentists and 100 caregivers was selected through convenience sampling. A pre-validated questionnaire was used to assess the barriers faced by the children with disability in their care. Focus group discussions and in-depth interviews were conducted with caregivers. Descriptive statistics were computed using SPSS version 20 and thematic analysis of qualitative data was done using NVivo software.

Results: 195 dentists and 100 caregivers responded to the survey. Majority of practising dentists (83.7%) reported inadequate training in handling children with special needs, while caregivers (38%) reported fear of dentist among the children as major barriers experienced in utilising dental services.

Conclusion and Implications: This study helps to identify the barriers faced by children with special healthcare needs. The findings highlight the need for hands-on training to be incorporated into the dental curriculum. It also suggests that improvements be made in dental clinics to accommodate these children in comfort. Due to limitations of the study, it is suggested that there is a need for further longitudinal studies that involve other family members of children with disability.

Key words: Developmental disabilities, dental utilisation, barriers, children.

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DESCRIPTION OF THE DAD CHAIR

Following are the features that are incorporated into this modified dental chair:

Feature 1: The Seat

This structure is usually ergonomically shaped so the human body can comfortably fit into the chair. In this model, the ergonomically shaped seat portion has two long cylindrical attachments at the bottom of the seat rest which makes it detachable in nature so that wheelchair patients can be accommodated as such without any transfer to the dental chair.

Feature 2: The Headrest

The headrest on a typical dental chair is just a simple headrest which is mechanized to traverse up (away from the back rest) and down (toward the back rest). On most designs the headrest is merely that, there is no neck support provided. In the current model, the head rest is similar to that of a cozy chair which is trapezoidal in shape. Here, both the head as well as the neck rest are integrated with back rest.

Feature 3 – Ramp Structure

A L- shaped ramp like structure is present with its vertical component attached to the back rest portion of the chair and slotted horizontal component is seen which rests in the floor. This allows free movement of the wheelchair onto the dental chair with is further locked with safety locks. There is also an inverted L shaped structure present to the right side of the dental chair which acts a guide for wheelchair patients to accommodate themselves in the dental chair without any assistance from outside.



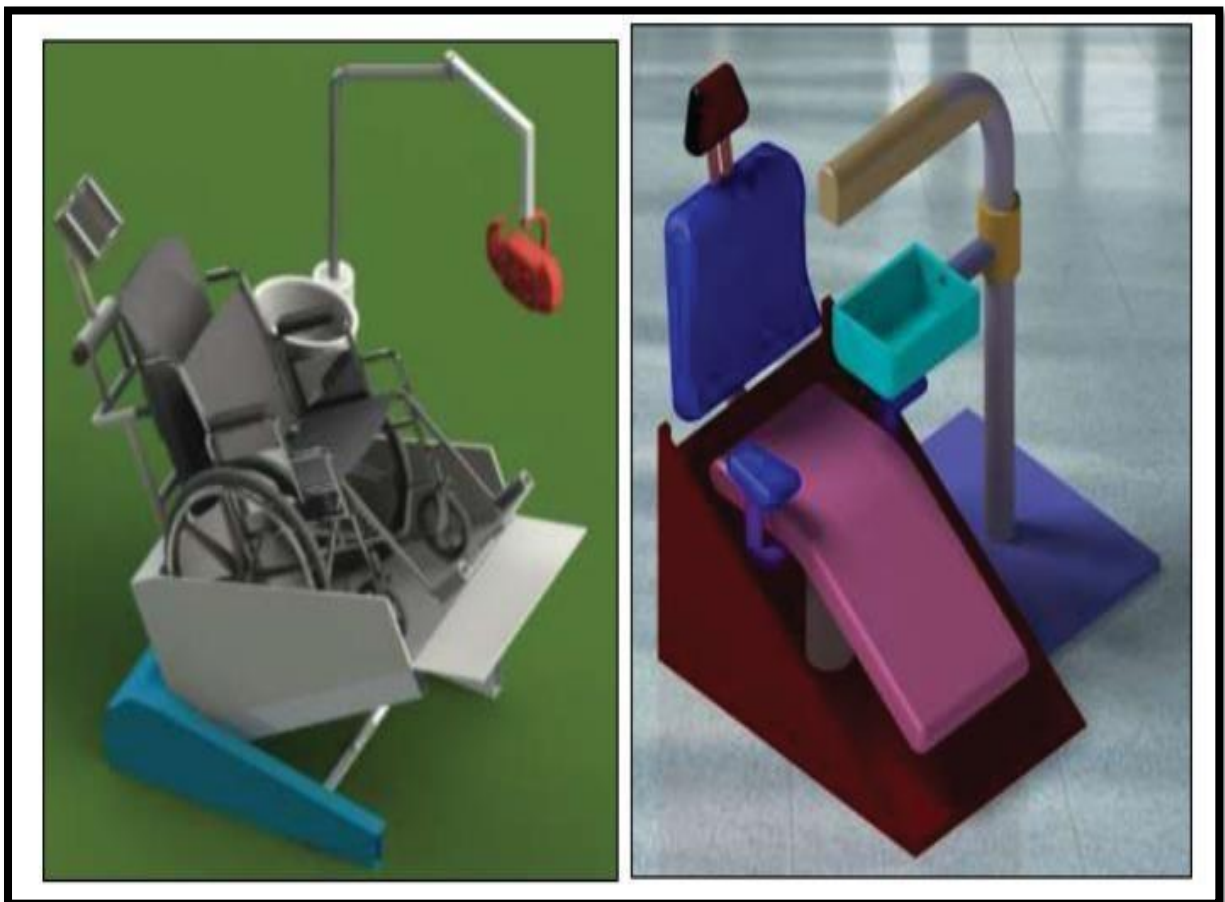
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OTHER FEATURES

Apart from these the chair has a single LED source light unit with arotor, scaler points and spittoon which are detachable in nature. The dental chair runs in an AC- DC motor convertor which produces a current of 210 volts and has a fuse attached to it. Thus, current fluctuations will have minor or nil damage to the circuit. The motor is well masked under a plastic cover present behind the chair for safety purposes. The elevating and tilting mechanisms of the chair are remote controlled. The chair was designed in such a way that it can support weight up to 120 kgs. (ISO standards).



CAD CAM Designs



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Different aspects of modified dental chair installed at the dental satellite clinic at National Institute of Empowerment of persons with Multiple Disabilities (NIEPMD). (A) Front view of chair; (B) and (B1) wheelchair attached view; (C) back side of the detachable seat rest; (D) side view of the dental chair.



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RESULTS OF PRACTICE

DISABILITY AND REHABILITATION: ASSISTIVE TECHNOLOGY
<https://doi.org/10.1080/17483107.2019.1710775>



PRODUCTS AND DEVICES



Development of modified dental chair to accommodate both wheelchair bound patients and general population

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ABSTRACT

Background: Dental chairs are a vital tool in modern dentistry. Their design has paved the way for increasing improvement in dental treatment. Since the 1900's, the dental chair design has continuously evolved and transformed from manually operated mechanisms to recently automated mechanism, in spite of advancements a common obstacle faced by these wheelchair bound populations in using present dental chair is transfer. Wheelchair users need to be transferred from the wheelchair to other places many times a day. In most of the cases the wheelchair user does not possess the capability of transferring to a dental chair independently. Therefore assistance is needed either from dental clinic staff or from family and friends. This transfer of patients from wheelchair not just requires manpower but also creates unnecessary anxiety among the wheelchair bound patients.

Solution: Thus a modified dental chair was constructed which would accommodate the wheelchair bound patients to the dental chair without any transfer. This study highlights the mechanism of action of the modified dental chair.

ARTICLE HISTORY

Received 1 July 2019
Accepted 27 December 2019

KEYWORDS

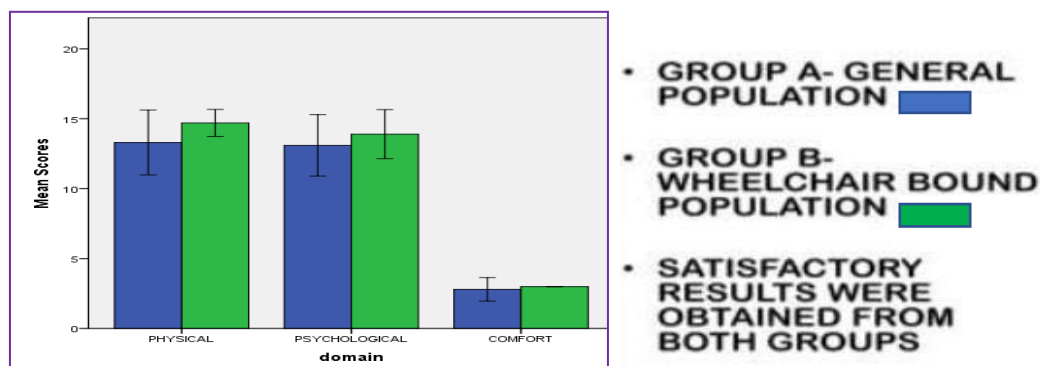
Disability; modified dental chair; general patients

► IMPLICATION FOR REHABILITATION

- Improve access among wheelchair bound patients to dental care services
- Decreases anxiety among the disadvantaged population in clinical set up

CONCRETE OUTCOME OF THE PRACTICE


A pilot study was conducted using a pre tested satisfaction proforma which yielded a satisfactory and comfortable response from both differently abled and general population. The results of this study was presented at IAPHD national convention at Maulana Azad Dental College during June 2019 and won the best poster award.






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CBR Detail:

Sr. No.	Ref. No./Application No.	App. Number	Amount Paid	C.B.R. No.	Form Name	Remarks
1	201841031878	TEMP/E-1/34687/2018-CHE	1600	23774	FORM 1	DISABLE AIDED DENTAL (DAD) CHAIR

TransactionID	Payment Mode	Challan Identification Number	Amount Paid	Head of A/C No
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Total Amount : ₹ 1600
 Amount in Words: Rupees One Thousand Six Hundred Only
 Received from DR. DEEPA .B the sum of ₹ 1600 on account of Payment of fee for above mentioned Application/Forms.
 * This is a computer generated receipt, hence no signature required.

[Print](#)

<p>(12) PATENT APPLICATION PUBLICATION (19) INDIA (22) Date of filing of Application :25/08/2018 (54) Title of the invention : DISABLE AIDED DENTAL (DAD) CHAIR (51) International classification :A61G0005100000,A61G0005120000,B60N0002750000,A61G0015120000,A61G0005140000 (52) Priority Document No :NA (53) Priority Date :NA (53) Name of priority country :NA (56) International Application No :NA (57) International Publication No :NA (61) Patent of Addition to Application Number :NA (62) Divisional to Application Number :NA (57) Abstract : The present invention shall disclose a Disable Aided Dental (DAD) chair suitable for both disabled population as well as general population. The DAD Chair of the present invention comprises of a seat, atleast one foot rest, two arm rest, a head rest with neck support, a backrest, and a dented L shaped ramp. The invention is characterised in the dented L shaped ramp for supporting the wheel chair, enabling as dental chair for general population with all components intact, and enabling as Disable Aided Dental (DAD) chair for disabled population after detaching the seat with foot rest and the armrest.</p>	<p>(21) Application No:201841031878 A (43) Publication Date : 28/02/2020 (71)Name of Applicant : HEKSHINI KRISHNAN Address of Applicant : 1944 KARTHIK ILLAM, NANDAVELI STREET, CHENNAI Tamil Nadu, India (72)Name of Inventor : HEKSHINI KRISHNAN, DWARANGIMALAI DWAKAR MADAN RINIAR, SRIHARAN IYER, JITHIMANGESHU DAS</p>
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No. of Pages : 11 No. of Claims : 2

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