

EVALUATION OF KNOWLEDGE AND AWARENESS OF BPS METHOD AMONG THE UNDERGRADUATES - A SURVEY

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ABSTRACT:

BPS(BIO FUNCTIONAL PROSTHETIC SYSTEM) is a recent technique for fabrication of complete dentures for edentulous patients . The dentures made out of BPS are considered much better than the conventional denture. The survey was done among the undergraduate students of various dental colleges across Chennai. The questionnaire survey was conducted through google forms which included 15 questions regarding BPS to which about 103 students responded. Their responses were evaluated and graphically represented. A thorough knowledge of the BPS system among the undergraduates is lacking. The students should be made aware of this system and its protocol for the proper use of this material.

KEY WORDS: BPS, Complete denture, ivoclar vivadent, STRATOS

INTRODUCTION

BPS(Biofunctional prosthetic system) was introduced by Ivoclar Vivadent in recent years which meets all the needs of a edentulous patient. The dentures are more comfortable, aesthetic, biocompatible and fracture resistant when compared to the conventional dentures (1). They are preferred even when the ridge resorption of the patient is more where a conventional denture fails to meet the patient's need and are not much stable. BPS offers both stability and retention along with aesthetics (2,3).

The denture material used is not only bio- compatible to the patients sensitive oral mucosa but also has a wide range of colors . They are easy to process and with accurate fit. For proper fit the dentures are articulated using STRATOS. The use of a centric tray and transferbow is made to know the patient's precise occlusion relation to transfer it on to the articulator. Gnathometer is used for proper centric jaw relation of the upper and the lower jaw through which the functional impressions are made (4),(5). The Ivoclar vivadent teeth are more of the replica of natural teeth. They are 3 layered cross linked

acrylic resin teeth which are resistant to wearing and give a more life-like appearance . Ivoclar Vivadent has a large range of tooth mold and tooth liners which can reflect the natural tooth (6).

Impression making is similar to the principle of mucostatic method with minimally compresses of the tissues, using a combination of irreversible hydrocolloids of varying densities together in the same impression (7). Custom trays were made out of primary casts. The Gnathometer was attached to the cast which facilitates the clinical procedures of secondary impression making, face-bow The secondary impression was taken with zinc oxide eugenol impression. The BPS system makes dentures under controlled pressure/ heat. The dentures are cured using inject molding technique which reduces the wastage of material with less porosity and shrinkage (7).

The BPS system is designed to meet the need of the patient aesthetic requirements along with stability and retention. The dentures are more comfortable and maximize the functional movement as the impression is made using the functional impression techniques. The stimulation of jaw movements on STRATOS articulator makes it more exact (4).

The main objective of this study was to gain the awareness of dental students on BPS methodology and about its significance over the conventional dentures thus the survey questions where the facts related to this method about BPS on Ivoclar Vivadent official website. Our team has extensive knowledge and research experience that has translated into high quality publications(8–27).

MATERIALS AND METHODS

The survey was done among the undergraduate students of various dental colleges across Chennai. The questionnaire survey was conducted through google forms which included 15 questions regarding BPS to which about 103 students responded. Their responses were evaluated and graphically represented.

RESULTS

The 15 questionnaires survey responses were evaluated and the following was the result.

The first chart shows the ratio to male and female responses among these 130 respondents and it was almost equal . There were 50.5% male and about 49.5% female. Among these respondents 88.3% of the population knew that BPS stands for BIOFUNCTIONAL PROSTHETIC but 11.7%.(Graph 1).

According to (Graph 2) about 71.8% people knew that IVOCLAR IVODENT was the company to introduce the BPS system for making complete dentures, which was a huge mass out of these 103 respondents.

(Graph 3)showed that 76.7% of the population who responded had knowledge about the method used to cure the denture. 47.6% of the respondents responded wrongly that the nick and notch method is the ideal method for Jaw relation for BPS dentures making when the correct answer was Jaw trackers(Graph 4).

Only 21.4% of the respondents correctly knew that it was vacuum dough adaptation technique which makes the dentures more of perfect fit. (Graph 5) 59.2% of the population were aware that the BPS dentures are more retentive as the impressions are recorded using functional impression technique which is more accurate(Graph 6).

The teeth for BPS dentures setting are selected using inter alar distance and only about 8.7% of the total population were aware about this fact(Graph 7). While about 59.2% had an idea that it should be the arrangement template used for teeth setting (Graph 8).

Only 14.6% of the 103 respondents had knowledge that the BPS system uses STRATOS articulator for the articulation of the patient's cast which gives a precise jaw relation of the patient(Graph 9).

More than 70% of the population believed that it's because of zero porosity that BPS dentures are stronger which is also true(Graph 10).

93.2% had no knowledge that the BPS system is not limited only to complete dentures it has its applications in partially dentures, combination denture and hybrid dentures(Graph 11)

55.3% among the total number are not aware that the BPS method is also applicable in implant dentistry(Graph 12).

About half the population had no knowledge that was about 43.7% that use of the BPS logo is validated only in the presence of BPS specialists as well as BPS equipment(Graph 13). According to (Graph 14) more than 40% had no idea that the BPS specialists are available for public viewing on the company's website. In case there is lack of certificate or lack of equipment for a denture with the BPS logo is valid for legal cases(Graph 15).

DISCUSSION:

According to the survey conducted it shows that out of 103 respondents the total population didn't have proper knowledge about the entire BPS system and its working protocol (28). Their responses were partially correct and for a few important fact that the BPS logo is validated only for BPS specialist or BPS equipment and the lack of certificate or equipment is valid for a legal case (29). They didn't have a proper knowledge that BPS specialists are available for public viewing on the website of the company and the ratio included almost 43.7% without any knowledge and more than 10% were in doubt about the above information.

The lack of proper knowledge about the BPS system and its protocol can lead to any legal case over the doctor and the dental technician (30). Though is more conveying for the edentulous patient or denture bearers still the students of undergraduates are to be equipped with the proper knowledge about the use of this system before consulting it to the patient (31),(32)

BPS is not just important for its denture stability and retention but also for its aesthetic which makes it more promising for all the denture bearers as it meets the patient's requirements(2),(33). Its availability in different colors make it more flexible for the patient to accept it (3). The teeth used for the denture setting are more like the natural tooth with wear resistance. In all, the BPS dentures are considered much better than the conventional dentures used by a edentulous patient(34).

APPENDIX

QUESTIONNAIRE

S.N O	QUESTIONS	OPTION
1	What does BPS stand for?	a. Biofunctional prosthetic system b. Bio principle system c. Bio prepared system d. Biofunctional processing system
2	Which company introduced the bps system?	a. Ivoclar vivadent b. heraeus kulzer c. dentsply d. Aman girbbach
3	Which is the processing method used for the bps system?	a. Compression molding b. injection molding c. fluid resin d. cad cam milling
4	How does the bps method make jaw relations more accurate?	a. Nick and notch method b. jaw tracker c. bimeter d. tracer
5	How are the fit of the dentures improved through lab processing in the bps method?	a. Vacuum b. dough adaptation c. pressure injection d. low temperature curing
6	How is the denture retention improved with the bps method?	a. Retentive aids b. open mouth impression c. relining d. functional impressions
7	How are the teeth selected in the first appointment?	a. Interalar distance b. anatomical measurements c. bizygomatic width d. rule of thirds

8	How are the denture teeth arranged without the use of occlusal rims?	a. Using a glass plate b. preformed teeth sets c. teeth mold d. arrangement template
9	Which articulator system does the bps method employ?	a. Bio art A7 b. Whipmix c. Denar d. Stratos
10	How are the dentures made stronger in the bps method?	a. High impact resistance b. higher flex use strength c. zero porosity d. no improvement in strength
11	Is the BPS method limited to complete dentures?	a. Yes b. No
12	Can the bps method be followed for implant dentistry?	a. Yes b. No
13	Are you aware that the use of the bps logo is validated only in the presence of a bps specialist as well as the bps equipment?	a. Yes b. No
14	Are you aware that the list of bps specialists are available for public viewing on the company website?	a. Yes b. No
15	Are you aware that the lack of certification or the lack of equipment for a denture with the bps logo is valid grounds for a legal case?	a. Yes b. No

PICTOGRAPH

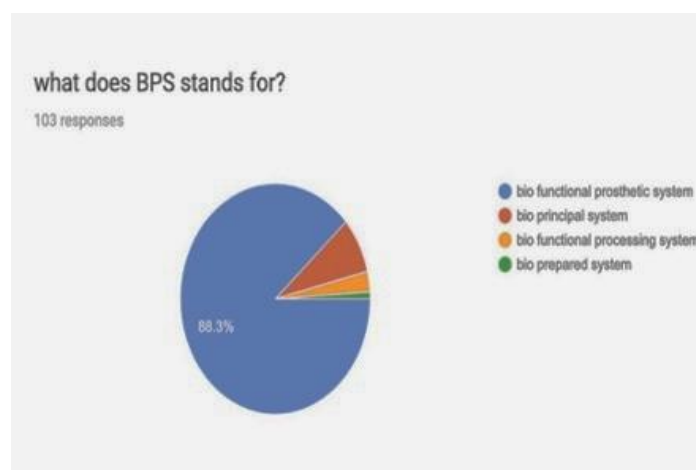


Fig 1: Represents awareness about what bps stands for.

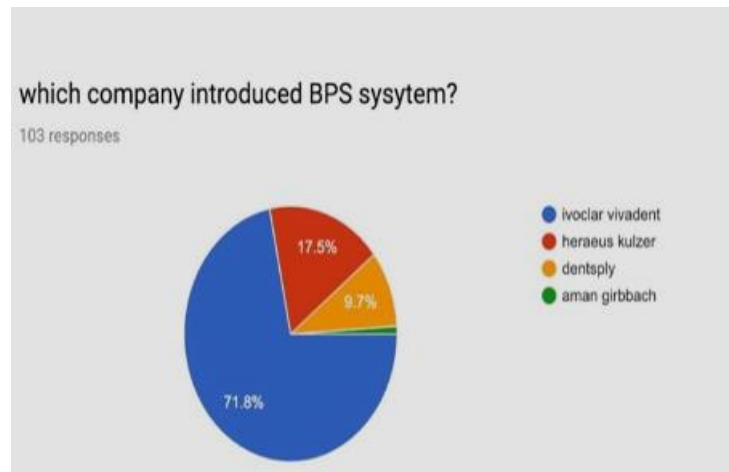


Fig 2: Represent awareness about the company which introduced bps.

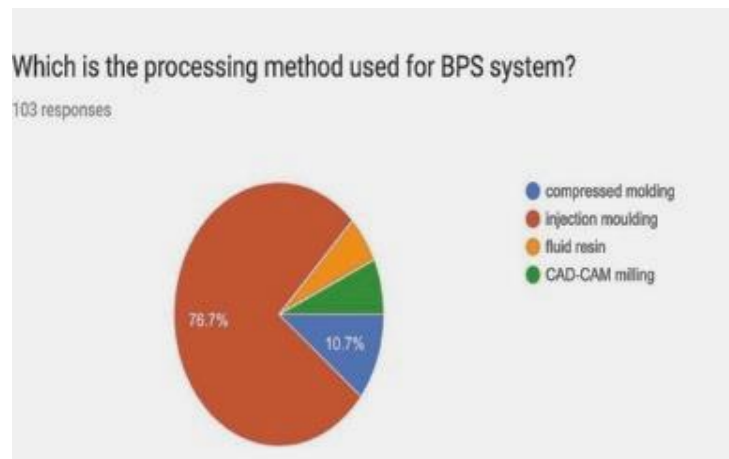


Fig 3: Represents awareness about the processing method used for bps dentures.

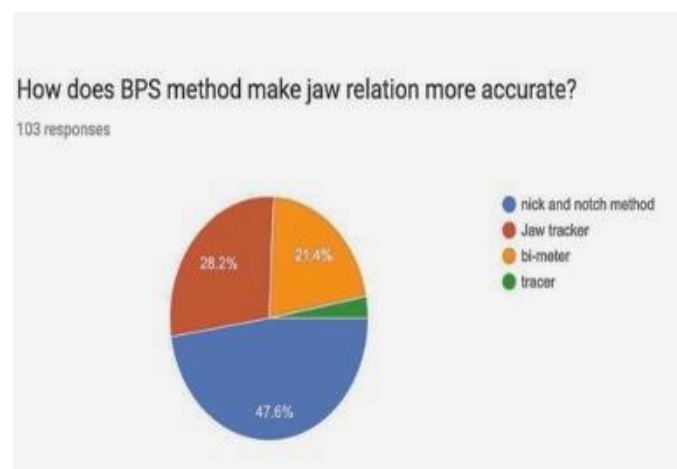


Fig 4. Represents awareness for bps denture accurate jaw relation.

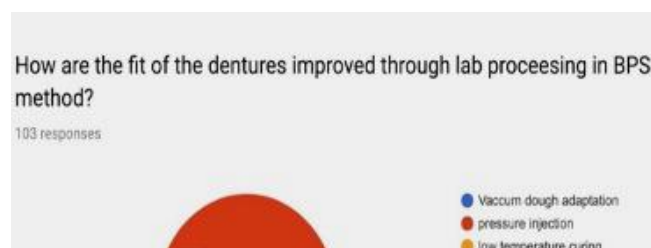


Fig 5: Represents awareness for the fit of bps denture.

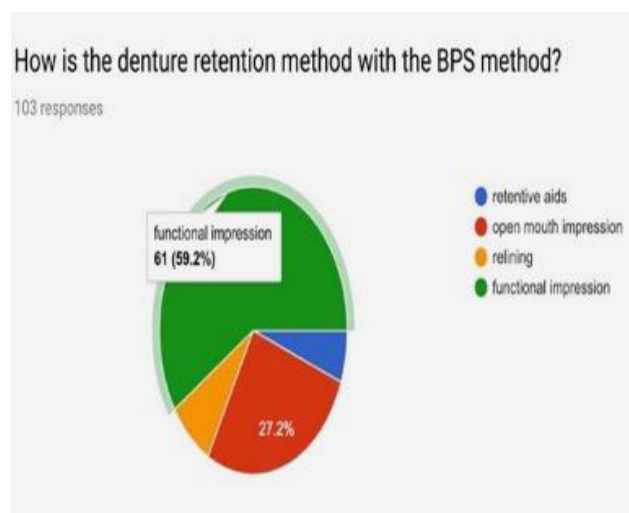


Fig 6. Represents awareness for bps denture retention.

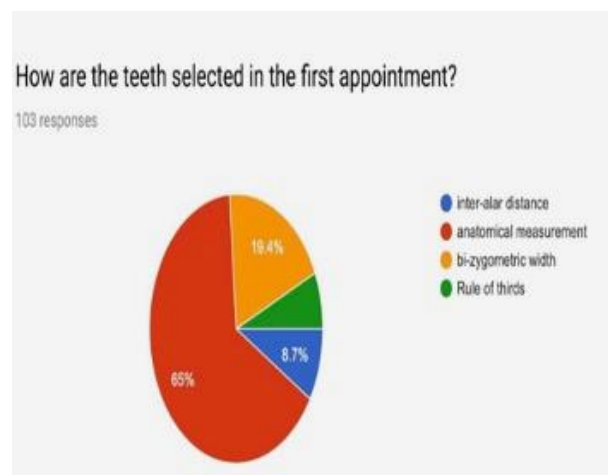


Fig 7: Represents awareness about the criteria for bps denture teeth selection.

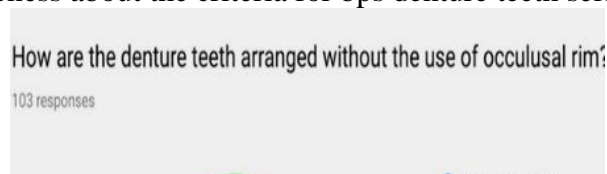


Fig 8: Represents awareness about the method for bps teeth arrangement.

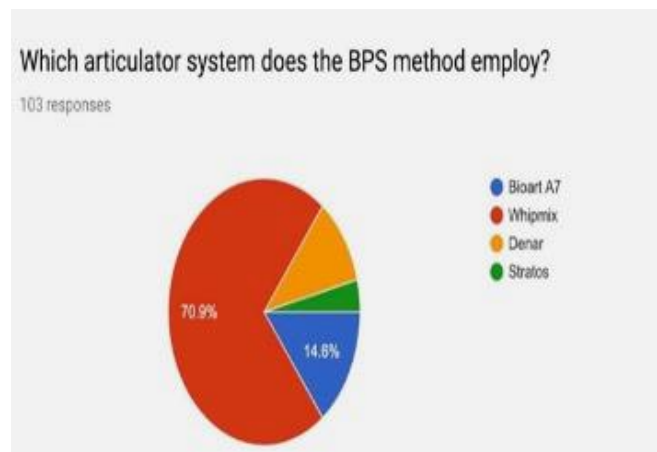


Fig 9: Represents awareness about the articulatory system used for bps dentures.

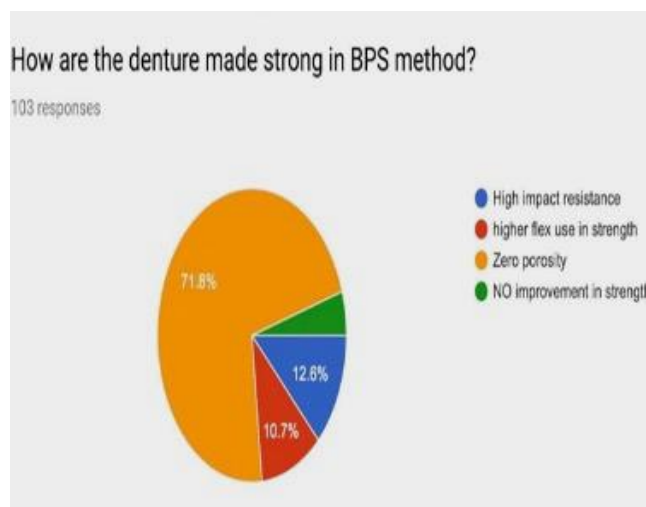


Fig 10: Represents awareness about the principle behind bps being a strong denture.

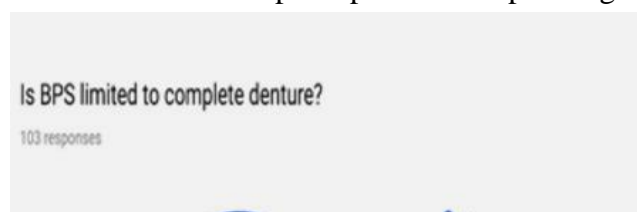


Fig 11: Represents awareness about its limitation to complete denture.

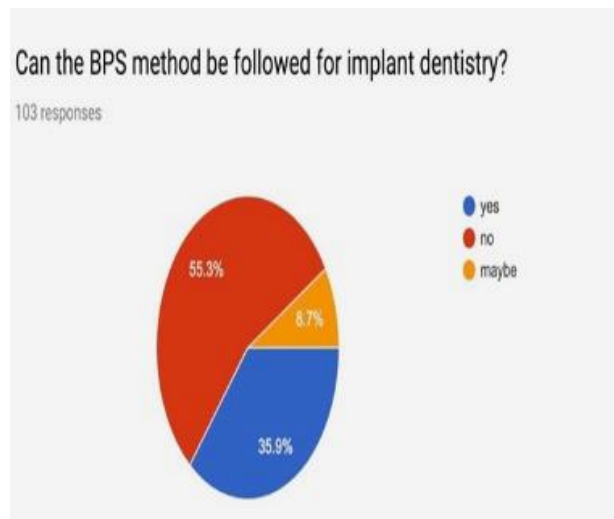


Fig 12. Represents awareness if it can be used in implant dentistry.

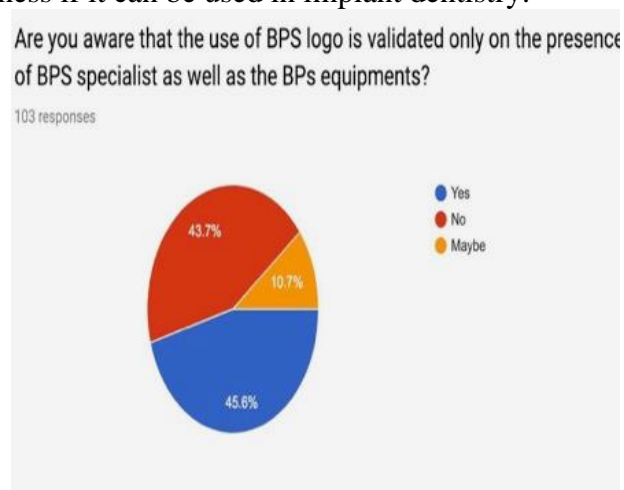


Fig 13: Represents awareness of its logo validation.

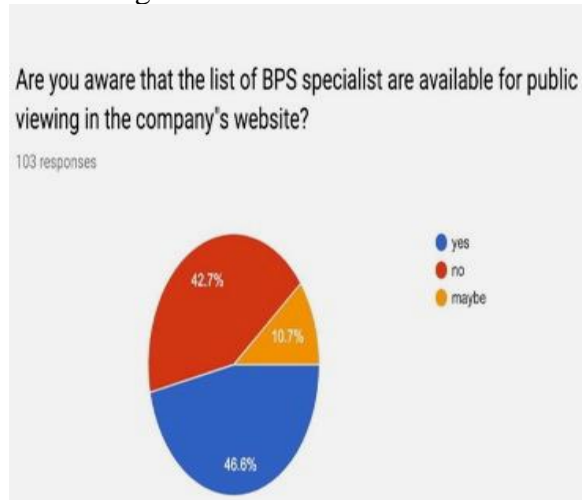


Fig 14: Represents the awareness of its specialities list over bps website.

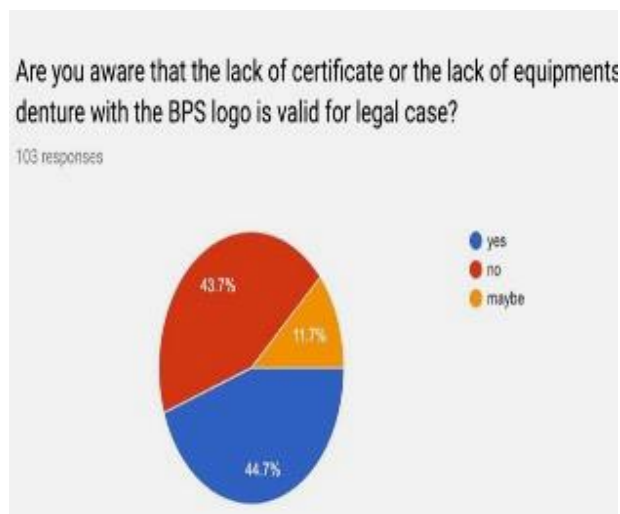


Fig 15: Represents the awareness that lack of certificate or equipment can cause a legal case.

CONCLUSION:

The above data shows that the respondents did not have enough knowledge about the BPS denture system. They are partially equipped with the new BPS method. The knowledge about BPS is more important among the dental students as it's new in the field of prosthodontics. It's important to have a thorough knowledge about this technique as the recent patients are more concerned about their aesthetic and natural look when it comes to replacing their natural tooth structures. BPS are the first choice of the patients.

Though it's a part of dentistry, the knowledge about BPS among the undergraduates is still not enough to make them understand the importance of BPS over conventional dentures. In the near future they would be the first choice for any denture bearer for it meets all the requirements of a edentulous patient. Thus more knowledge and awareness of the use of BPS should be made among the undergraduates for better understanding of this method.

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