Management of Dental Health Services in selected Upazila Health Complex

ABSTRACT

Objective: To find out the status of the management of dental health services in selected Upazila Health Complex".

Methodology: A cross-sectional study was conducted at three selected UHC in Mymensingh districtfrom January, 2022 to December, 2022 to assess the management of dental health services. A total of 368 respondents (35 service providers & 333 service receivers) were selected by convenient sampling method. Relevant data were collected by pretested semi-structured questionnaire. An observation checklist was used to reveal the available facilities. Collected data were analyzed using SPSS software version 22.

Result: Among 35 service providers, 51.4% respondents suggested to ensure adequate supply of gloves & mask, 80% respondents said about inadequate number of service provider, 68.6% service provider gave their opinion to increase manpower & 17.1% opined to ensure adequate supply of instruments & materials. Among 333 service receivers, 45% respondents were consulted & referral system was present there. All of the service receivers would like to recommend their family, friends & relatives to come at the UHC to get dental health service & 79.9% service receivers were satisfied with their treatment. About 75.6% service receivers didn't get test facilities, 53.2% didn't get all prescribed medicines & 85.9% didn't get any dental health education. About 23.37% service receivers gave their opinion to provide all types of treatment & 22.28% said to ensure adequate supply of all drugs. There were no emergency generator and no wheel chair for severely ill & aged patient.

Conclusion: The complete implementation of an ideal dental service is not possible to attain, day by day improvement is necessary for betterment. Improvement of facilities, use of modern equipment, adequate manpower, in-service training etc might improve the overall management of dental health service on UHC.

Key words: Dental Health, Dental health services, Management, UHC.

INTRODUCTION

Healthcare is not only to provide cure but also to offer comfort and empathy. Dental and oral health is an inseparable part of systemic health and as one of the main indicators in quality of life. Poor dental and oral health affects general health conditions and psychosocial and economic life. It is an important indicator of the country's socio-economic level development. The quality of dental health service is very important. Oral and dental disease is a major health problem evidenced by the high incidence and prevalence throughout the world. The effect of oral and dental disease on individuals and communities are pain, dysfunctions and reduced quality of life. Meanwhile, there are many communities, especially those with low socioeconomic conditions in developing countries which have oral and dental health problems. Geographical location, employment status and socioeconomic status are three important variables influence individuals using dental health services. (Akbar *et al.* 2020)

"Visit your dentist twice a year"-the most commonly used phrase in dentistry for patients. It provides the potential for saving more teeth & promoting the best dental health. But due to the financial constraints, people do not visit their dentist. Nowadays, convincing any population for regular dental treatment is one of the difficult problems. Dental diseases can have serious implications & devastating effects on the quality of life & the health of the individual. Every dental health care worker is responsible for breaking the cycle of disease transmission. Pathogenic microorganisms cause contamination, infection & decay. Proper procedures can prevent transmission of infection among patients & dental health care personnel. It is important to achieve highest level of infection control & practice sterile techniques in order to prevent infection. Although the complete implementation of an ideal dental practice is not possible to attain, day by day improvement is necessary for betterment. For effective dental practice management, it is necessary that the complete dental team works in an efficient manner and follow the correct rules and laws. (Das *et al.* 2018)

Health care services focused on promoting, maintaining, attaining and restoring oral health may be grouped into two types: oral healthcare and dental care. Oral health is an aspect of overall health and may be broadly defined as a state of being free from pain, diseases, and disorders affecting the oral cavity. Oral healthcare (or the "care" of oral health) is a part of the overall patient care and includes activities such as risk assessment, health promotion and education, and referral for dental care services. Dental care is a critical component of oral healthcare which includes health services specifically focused on maintaining, attaining or restoring oral health. Whereas oral healthcare is broadly focused on identifying need and activating and engaging patients, dental care is specifically focused on the delivery of intervention and restoration. Oral healthcare is within the domain of all healthcare team members. Dental care, on the other hand, requires specific knowledge, training, and, in some instances, licensure or certification. Dental care services are provided by healthcare team members who have completed the appropriate training and possess the required skills. The bottom-line: oral healthcare is everybody's business, whereas dental care is the responsibility of specific team members. In 2011, the Institute of Medicine (IOM) published a report, Improving Access to Oral Health Care for Vulnerable and Underserved Populations, which set forth a vision of transformation for America's oral healthcare system. The report suggested that collaborative and multidisciplinary healthcare teams working across the healthcare system in various settings were needed to effectively address oral health in America. (Maxey *et al.* 2015)

Dental care practice should be safe, effective, patient centered, timely and efficient. Safe – avoid injuries to patients from the care that is intended to help them. Effective – providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding under use and over use respectively). Patient centered – providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions. Timely – reduces wait and sometimes harmful delays for both those who receive those who give care. Efficient – avoids waste, including waste of equipments, supplies, ideas and energy. (Islam, 2014)

The key of oral health service is depending on the degree of satisfaction of its patients. Patients satisfaction related with quality of service is the ratio between the perceptions of the care received by his

expectations before getting the service. If expectations are met, it means the service has provided an exceptional quality and will also lead to high satisfaction. Conversely, if their expectations are not reached, it means that service quality does not meet what is expected. (Akbar *et al.* 2018)

The provision of a high quality dental health services requires effective management of all aspects of service provision - including the educational, training and other professional development needs for health care givers – for the efficient & effective use of resources. But management system in health service especially in dental sector is facing various problems in Bangladesh. These problems should be properly identified & evaluated for suggesting ways & measures or better health service.

Now-a-days, people are much more conscious about their health including dental health. To improve the health service in Bangladesh, it is a challenge to maintain optimal delivery of care to meet the needs of the population and use resources effectively. Delivering high quality services requires a holistic approach.

MATERIALS & METHOD

A cross-sectional study was conducted at Nandail, Valuka & Muktagachha UHC in Mymensingh districtfrom January, 2022 to December, 2022 to assess the management of dental health services. A total of 368 respondents (35 service providers & 333 service receivers) were selected by purposively sampling method. Based on related literature reviewed, a written semi-structured questionnaire was developed by using selected variables according to objectives. Relevant data were collected by pretested semi-structured questionnaire. An observation checklist was used to reveal the available facilities. Necessary permission was obtained from authority to carry out the study & then collected data by face to face interview. Collected data were analyzed by using SPSS version 22 & Microsoft Excel.

RESULTS

Table 1. Distribution of respondents (service providers) according to designation (n=35)

Designation	Frequency	Percentage
UHFPO	3	8.6%
Dental Surgeon	3	8.6%
Dental technologist	1	2.9%
Receptionist	8	22.9%
Pharmacist	4	11.4%
Lab technologist	5	14.3%
Aya/ward boy	5	14.3%
Cleaner	3	8.6%
Security Guard	3	8.6%

Table2. Distribution of respondents (service providers) according to their response regarding adequate supply of gloves & musk (n=35)

Supply of gloves & masks	Frequency	Percentages
Adequate	17	48.6%
Not adequate	18	51.4%

Fig 1 . Distribution of respondents (service providers) according to their response regarding in-service training (n=35)

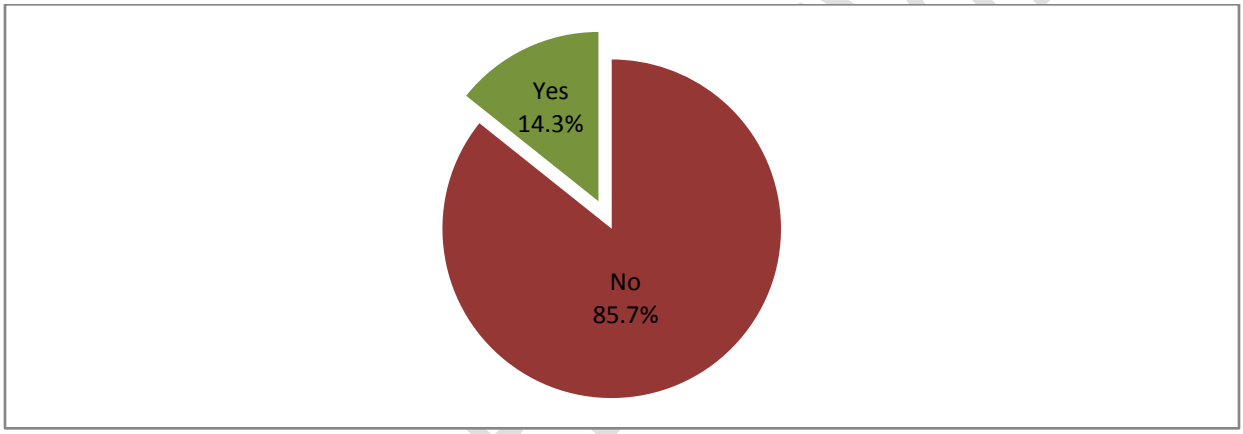

Table 3 : . Distribution of respondents (service providers) according to their response regarding adequate number of service provider (n=35)

Adequate Number of service provider	Frequency	Percentages
Yes	7	20%
No	28	80%

Table 4 : Distribution of respondents (service providers) according to their problems to provide service (n=22)

Problems	Frequency	Percentages
Lack of instruments and materials	2	9.09%
Lack of manpower	19	86.36%
Congested treatment room	1	4.55%

Table 5 : Distribution of respondents (service providers) according to their opinions (n=29)

Opinion	Frequency	Percentage
Increase manpower	24	68.6%
Adequate instrument supply	6	17.1%
Provision of enough space in the treatment room	1	2.9%
Provision of modern equipments	2	5.7%
In-service training	5	14.3%
Adequate medicine supply	3	8.6%
Adequate gloves & musk supply	2	5.7%

Fig 2 : Distribution of respondents (service receivers) according to age group (n=333)

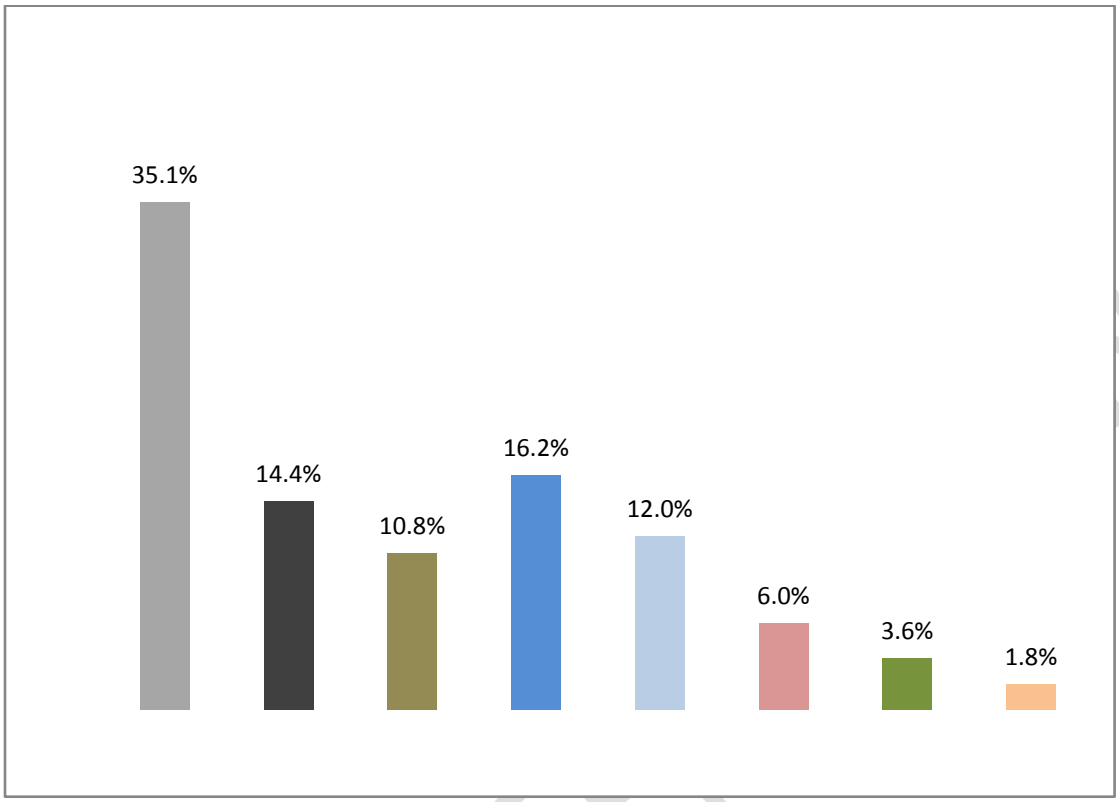

Fig 3 : . Distribution of respondents (service receivers) according to gender (n=333)

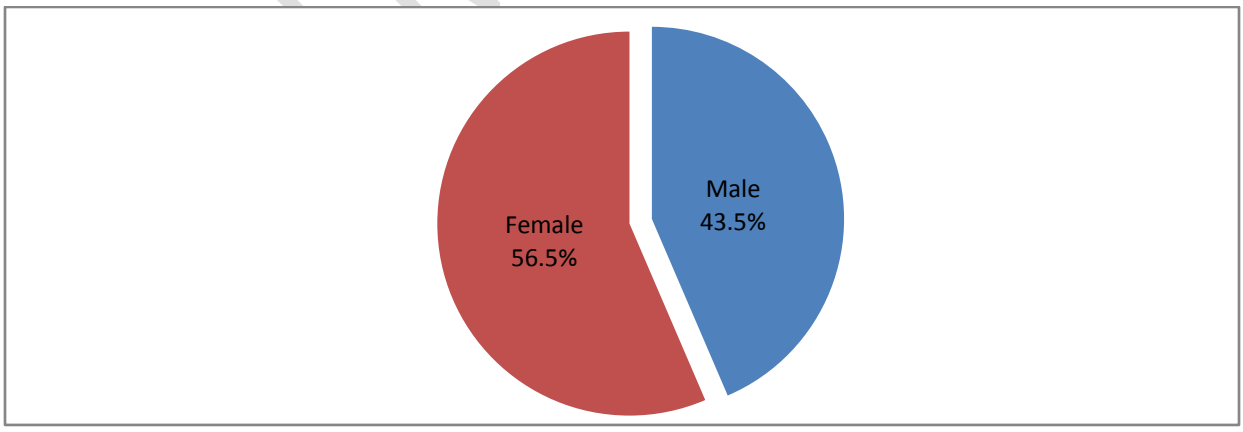

Fig 4 : . Distribution of respondents (service receivers) according to educational status (n=333)

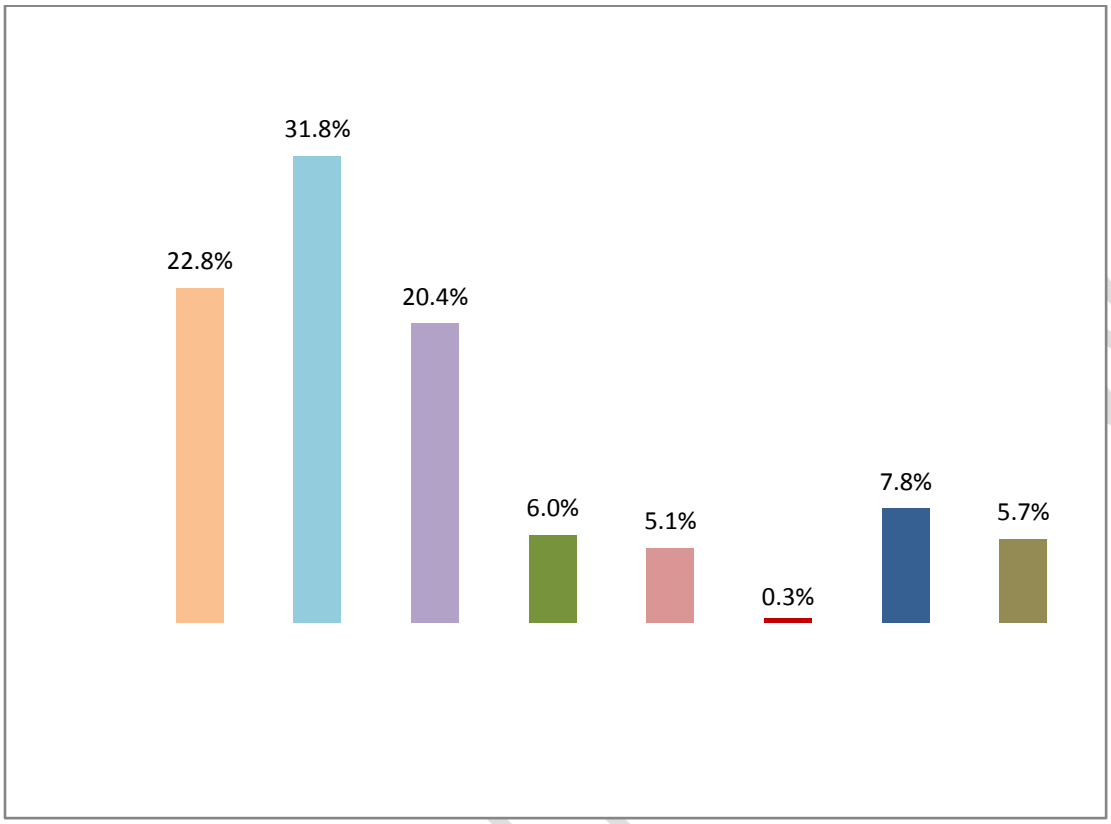

Table 6 : . Distribution of respondents (service receivers) according to waiting time (n=333)

Waiting time	Frequency	Percentages
no waiting	92	27.6
1-15min	72	21.6
16-30min	109	32.7
31-60min	46	13.8
61-120min	8	2.4
more than 120min	6	1.8

Table 7 : . Distribution of respondents (service receivers) according to their dental problems (n=333)

Dental problems	Frequency	Percentage
Sensitivity problem	42	12.6%
Toothache	202	60.7%
Tooth decay	5	1.5%
Cavity	85	25.5%
Bad breath	2	0.6%
Gum pain	71	21.3%
Gum bleeding	32	9.6%
Mobile tooth	106	31.8%

Table 8 : Distribution of respondents (service receivers) according to their treatment (n=333)

Treatment	Frequency	Percentage
Consultation only	150	45.0%
Consultation with referred	79	23.7%
Extraction	104	31.2%

Table 9 : Distribution of respondents (service receivers) based on prescribed drug (n=333)

Types of drug	Frequency	Percentage
Analgesic	333	100%
Anti-ulcerant	290	87.1%
Anti-biotic	319	95.8%
Mouthwash	87	20.1%
Toothpaste	41	12.3%
Others	18	5.4%

Table 10 : Distribution of respondents (service receivers) based on their response regarding behaviour of doctor (n=333)

Doctors behaviour	Frequency	Percentages
Highly satisfied	323	97%
Satisfied	9	2.7%
Average	1	0,3%

Fig 5 : Distribution of respondents (service receivers) based on their response regarding diagnostic test facility (n=82)

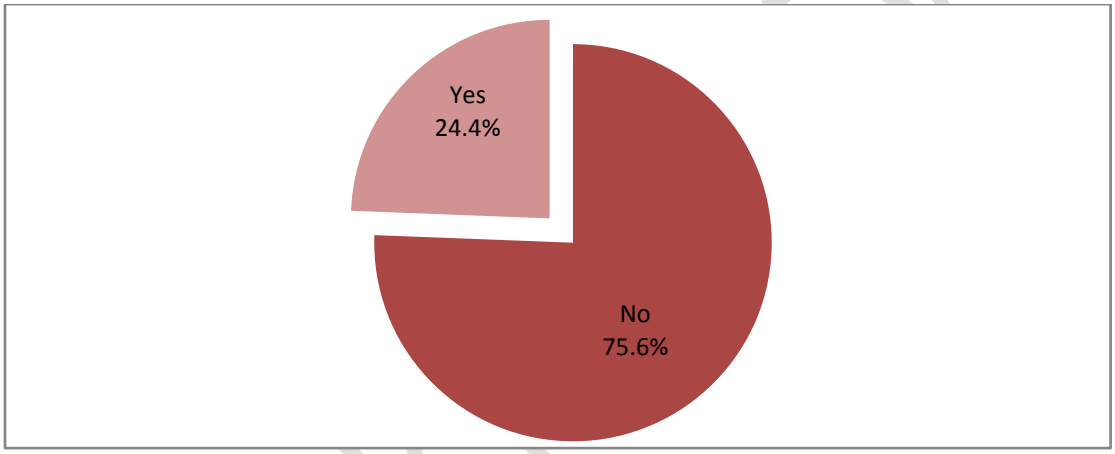

Fig 6 : . Distribution of respondents (service receiver) based on getting all medicine (n=333)

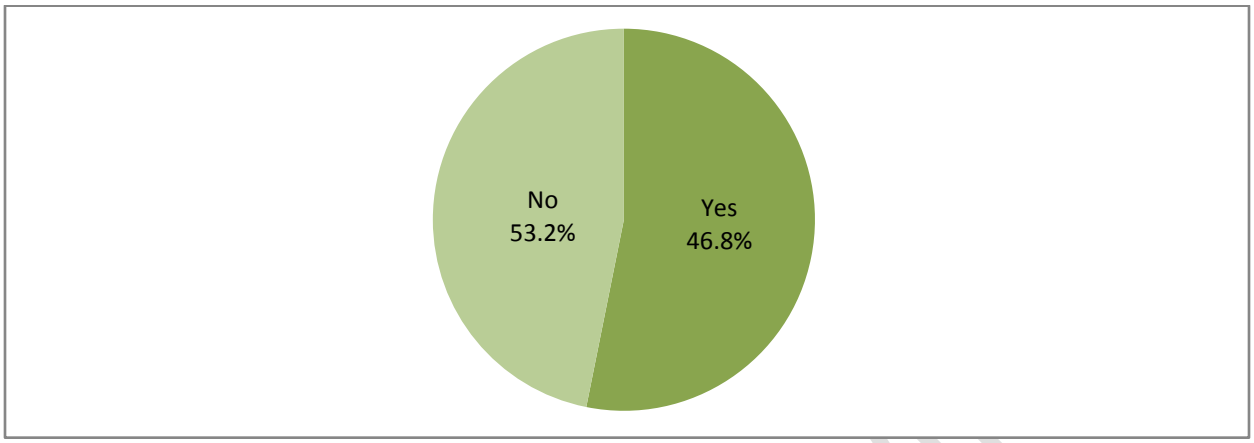

Table 11. Distribution of respondents (service receivers) based on their response regarding dental health education (n=333)

Dental health education	Frequency	Percentages
Yes	147	14.1%
No	286	85.9%

Fig7. Distribution of respondents (service receivers) regarding satisfaction about treatment (n=333)

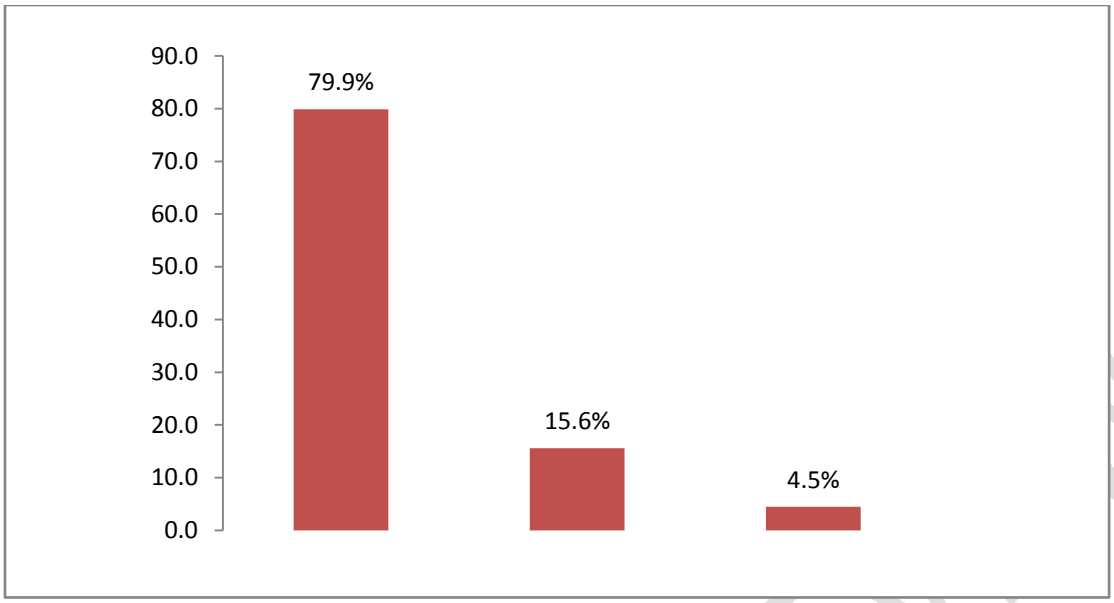

Table 12: . Distribution of respondents (service receivers) based on their opinion to improve the quality of services (n=184)

Opinion	Frequency	Percentage
All treatment should be provided	43	23.37%
Ensure adequate supply of all drugs	41	22.28%
Ensure adequate sitting arrangement	36	19.57%
Need fan & proper ventilation	36	19.57%
Ensure enough time to consult	32	17.39%
Reduce waiting time to consult with doctor	31	16.85%
Prevent long waiting time to get ticket	22	11.96%
Prevent crowding	17	9.24%
Improve toilet facilities	14	7.61%
Ensure safe drinking water supply	14	7.61%
UHC should be more clean	10	5.43%
Need prayed room for female	3	1.63%

DISCUSSION

In this study, 28.65% service providers studied up to class 5, 20.0% studied diploma, 17.1% studied MBBS/BDS & 11.4% studied HSC in this study. Aurangjeb *et al.*(2013) conducted a cross-sectional study among 105 service providers, where 65.7% were graduate dental surgeons and 21.30% completed their post-graduation in respective field. Dipankar, (2017)conducted another cross-sectional study where among 81% service providers, graduate was 35 in number & post graduates were 41, the number of diploma holder was 2, 1 was HSC passed & 1 was SSC passed.

About 57.1% service providers used gloves & musk & 42.9% did not use. 51.4% service providers said that they had inadequate gloves & musk supply & 48.6% respondents said that they had adequate supply. In another study in 1996, Lange *et al.* found that 84.60% used glove, masks were used by 55.70% & 77.6% used eyewear among 260 respondents in Brisbane, Australia. Pandit *et al.*(2015) conducted a similar study in India. In that study, they found 96% of total respondents used facemasks and 65% used protective gowns as PPE. Aurangjeb *et al.*(2013) conducted a cross-sectional study where they found 96.1% used face musk, 74.3% respondents did not use goggles, only 4.8% dental surgeons used head caps in their daily practice. Rahman et al. (2015) conducted a study in India where they found higher percentage of the respondents 73% used uniform but they used gloves when it was required especially or biohazard waste.

In this study, out of 333 service receivers (patients), 35.1% respondents were from 2-12 years age group, 14.4% respondents were from 13-23 years age group, 10.8% respondents were from 24-34 years age group, 16.2% respondents were from 35-45 years age group, 12.0% respondents were from 46-56 years age group, 6.0% respondents were from 57-67 years age group, 3.6% respondents were from 68-78 years age group, 1.8% respondents were from above 78 years age group.43.5% respondents were male & 56.5% respondents were female. 22.8% respondents were illiterate, 31.8% respondents studied up to class 5, 20.4% respondents studied SSC, 6.0% respondents studied HSC, 5.1% respondents were graduated, 0.3% respondents studied post-graduation, 7.8% respondents studied in madrasa & 5.7% respondents were in others group. Another study, Soomro *et al.* (2018) found 78% patient belongs to 18-59 age group. 47% respondents were female & 53% were male. About 23% patients were unmarried & 59% were married. Literacy rate was 73%. About 37% respondents were in service, 26% were unemployed, 23% were laborer & 14% were Students among 100 respondents. In another cross-sectional study, Dipankar (2017) found some similar result. Among 78 respondents, 53.80% were from 36-45 years age group, 26.90% were from 26-35 years age group & 1.30% was over 55 years. Their mean age was 38.5 years. Male was higher than female respondents, Male was 71.80% and female was

28.20%. 88.50% respondents were Muslim & 11.50% was Hindu. In the category of literacy, 34.60% found illiterate, 21.80% passed honors, 16.70% completed SSC & 26.90% were primary passed.

This study also represented that 27.6% respondents didn't wait, 21.6% respondents waited for 1-15 min, 32.7% respondents waited for 16-30 min, 13.8% respondents waited for 31-60 min, 2.4% respondents waited for 61-120 min & 1.8% respondents waited for more than 120 min. Pandit *et al.* conducted a similar study on impact of OPD waiting time on patient's satisfaction. They found 40 minutes on average, 33% patients waited for 30-60 minutes, 32% patients waited for over an hour. Another similar study was done in China. According to the study of Sun et al. (2017), the average waiting time for consultation was between 20.88-23.92 mins during October, 2014-August, 2015. In a similar cross-sectional study, Deshmukh *et al.* (2018) conducted about patient's satisfaction of outpatient department in India. Among 500 respondents, 54% said that waiting time was less.

In this study, 1.2% respondents said no & 98.8% respondents said yes against the question of giving explanation of treatment by doctor.32.1% respondents said no & 67.9% respondents said yes regarding the question of giving verbal orientation of prescribed drug by doctor. In a study, Deshmukh *et al.* (2018) found that 87% of the total respondents said that doctor explained nicely about the disease. In other study, they found that 65% respondents said that doctors listened to the problem attentively.

This study presented that 24.6% respondents were given test & 75.4% respondents were not given any test.24.4% respondents said yes & 75.6% respondents said no against the question of getting the test facility,46.8% respondents got medicine & 53.2% respondents didn't get medicine. In similar study, Deshmukh *et al.* (2018) found that 78% respondents got prescribed medicine among 500 service receivers.

With the help of observation checklist, I found that there were lack of instruments, materials & physical facilities. Treatment facilities are very limited. There is no X-ray facility & no emergency generator in UHC.

CONCLUSION

The study has represented the management of dental health services in three UHC. In this study, reception facilities were good but there were no emergency generator and treatment facilities were limited.Referral system was present.Service providers used only two types of PPE-gloves & mask. Most of the service provider opined that manpower should be increased.All of the service receivers said that they would like to recommend their family, friends & relatives to come at the UHC to get dental health services.Most of the service receivers were satisfied with treatment they received.

INFORMED WRITTEN CONSENT

Purpose of the study: To find out the status of the management of dental health services in selected Upazila Health Complex.

Type of participation of the study respondents: Face to face interview.

Procedure: Individual participants should be interviewed based on a semi-structured questionnaire.

Duration: It will take approximately 10 minutes for each participant.

Risk: There is no risk involved in your participation in this research. Your responses will be used only for the purpose of this research.

Benefits: Your participation in this research will help to ensure proper management of dental health service in UHC.

Confidentiality: Your given information will keep confidential and your name will not use.

Voluntary participation: Your participation is completely voluntary. You have the right to withdraw yourself from this research any time you want to or refuse to answer any question if you wish. The interview will be conducted in a private place.

Consent for study participation: Participation in this study was informed to me under the title of "Management of Dental Health Services in Selected Upazila Health Complex. "Research purpose, procedure, risks and benefits have been informed to me. I have received satisfactory answers to all my questions regarding this study. I voluntarily agree to participate in this study and I am aware that I can withdraw at anytime.

ETHICAL APPROVAL

An ethical clearance of the study was taken from The Institutional Review Board (IRB) of National Institute of Preventive and Social Medicine (NIPSOM) . Official permission was taken before collection of data. The respondents were explained about the aim and objective before the initiation of the interview. They were informed about their full right to participate or refuse to participate in the study. A complete assurance was given to them that all information provided by them would be kept confidential and their names or anything which can identify them would not be published or exposed anywhere. Any kind of harm or complication of the cases was not expect in this research. Informed written consent was taken from each respondent.

REFERENCES

Adams, T., Freeman, R., Gelbier, S., Gibson, B. (1997) "Accessing primary dental care in three London boroughs", *Community Dent Health*, 14(2), pp. 108-112.

Akbar, F. H., Jaya, M. T. (2017) "Relationship between Service Quality on Public Health Center and Patient Satisfaction", *Global Journal of Health Science*, 9, pp. 96-102.

Amaral, C.O.F., Belon, L.M.R., Silva, E.A., Nadai. A., Amaral, Filho M.S.P., Straioto, F.G. (2018) "The importance of hospital dentistry: oral health status in hospitalized Patients", 66(1), pp.35-41.

Aurangjeb, A. M., Zaman, T. and Badruddoza, M. (2013) "Practice of Dental Surgeons about Dental Splatter and Aerosol", *City Dental College Journal*, 10(2), pp. 10-16. doi:10.3329/cdcj.v10i2.16314.

Awad Allah, M. B., Eltwansy, M. S. and El-Shafei, D. A. (2017) "Patient satisfaction at Dentist Clinic in Zagazig University Hospitals Egypt", *Public Health International*, 2(4), pp. 1-6. doi: 10.11648/j.phi.s.2017020401.11.

Das, M., Prodhan, D.,Shama, L,Sinha, P.K., Mohanty, S., Todkar, M. (2018) "An Insight to Dental Practice Management: A literature review", *Int J Oral Health Med Res.*, 5(1), pp.54-56.

Deshmukh, M. A., and Upadhye, J. J. (2019) “Patient Satisfaction of Outpatient Department at ESIS Hospital, Nagpur, India:, *International Journal of Research in Medical Sciences*, 7(3), pp. 918. doi: 10.18203/2320-6012.ijrms20190949.

Dipankar (2017) Management of Outpatient Department in a Specialized Hospital.

Gürdal, P., Çankaya, H., Önem, E., Dinçer, S., Yílmaz, T. (2000) “Factors of patient satisfaction/dissatisfaction in a dental faculty outpatient clinic in Turkey”, *Community Dent Oral Epidemiology*, 28(6), pp. 461-469.

Islam, M.S. (2014) “Effective quality management in dental care practice”, *Rangpur dental college journal,* 2(2), pp.2-3.

Kashinath, K. R., Bharateesh, J. V., Chandan Agali, Mythri, H., Darshana, Bennadi, *et al*. (2010) “Factors affecting patient satisfaction among those attending an outpatient department of a dental college in Tumkur city-A Survey”, 1(2),pp. 1-10.

Lal, S., Paul, D., Vashisht, B. M. (2004) “National Oral Health Care Programme (NOHCP) implementation strategies”, *Indian J Community Med*, 29(1), pp. 3-10

Lange, P., Savage, N. W. & Walsh, L. J. (1996) “Utilization of Personal Protective Equipment in General Dental Practice”, *Australian Dental Journal*, 41(3), pp. 164-8. doi: 10.1111/j.1834-7819.1996.tb04848.x.

Mahrous, M. S., Hifnawy, T. (2012) “Patient satisfaction from dental services provided by the College of Dentistry, Taibah University, Saudi Arabia”, Journal *of Taibah University Medical Sciences*, 7(2), pp. 104-109.

Manski, R. J., Magder, L. S. (1998) “Demographic and socioeconomic predictors of dental care utilization”, *J Am Dent Assoc*, 129, pp.195-200.

Orenuga, O. O., Sofola, O. O., Uti, O. O. (2009) “Patient satisfaction: A survey of dental outpatients at the Lagos University Teaching Hospital, Nigeria”, *Nig Q J Hosp Med*, 19, pp. 47-52.

O’Shea, R. M., Corah, N. L., Ayer, W. A. (1986) “Why patients change dentists: practitioners’ views”, *The Journal of the American Dental Association*, 112(6), pp. 851-854.

Pandit, A. Bhagatkar, N. and Ramachandran, M. (2015) “Personal Protective Equipment used for Infection Control in Dental Practices”, *International Journal of Research Foundation of Hospital and Healthcare Administration*, 3(1), pp. 10-12. doi: 10.5005/jp-journals-10035-1030.

Patel, J. Y. (2014) “A Study on evaluation of patient satisfaction with dental health care Services”, *International Journal of Scientific and Research Publications*, 4(8), pp. 1-4.

Prakash, H., Duggal, R., Mathur, V. P. (2007) “Guidelines for meaningful and effective utilization of manpower at dental colleges for primary prevention of oro-dental problems in the country”.

Rahman, M., Moumita, C. and Rikta, K. (2015) “Medical Waste Management System: An Alarming Threat (a Case Study on Jessore Municipality, Bangladesh)”, *Journal of Environmental Science and Natural Resources*, 6(2), pp. 181-189. doi: 10.3329/jesnr.v 6i2.22115.

Rankin, J. A., Harris, M. B. (1985) “Patients’ preferences for dentists’ behaviors”, *The Journal of the American Dental Association*, 110(3), pp. 323-327.

Soomro, M. H.,Magsi, M. Lahmar, O. (2018) “Patient Satisfaction with HealthCare Services in Outpatient Department of a Dental College Hospital in Pakistan”, *Update Dental College Journal*, 8(1), pp. 55-60. doi: 10.3329/updcj.v8i1.38413.

Sun, J. *et al*. (2017) “Reducing Waiting Time and Raising Outpatient Satisfaction in a Chinese Public Tertiary General Hospital - An Interrupted Time Series Study”, *BMC Public Health*, 17(1), pp. 1-11. doi: 10.1186/s12889-017-4667-z.

Tandon, S. (2004) “Challenges to the oral health workforce in India”, *J Dent Educ*, 68(7), pp. 28-33.