



## Knowledge and Perception on Continuous Ambulatory Peritoneal Dialysis among Physicians Working in Selected Public Hospitals in Myanmar

Khin Phyu Pyar<sup>1</sup>, Moe Zaw Myint<sup>2</sup>, Aung Phyo Kyaw<sup>4</sup>, Kyaw Thu Yein Lwin<sup>3</sup>, Lay Maung Maung<sup>3</sup>, Ye Min Hein<sup>3</sup>, Sai Aik Hla<sup>2</sup>, Thurein Win<sup>4</sup>, Zarni Htet Aung<sup>2</sup>, Thein Tun Myint<sup>2</sup>, Han Lin Aung<sup>4</sup>, Kyaw Thet Maung<sup>4</sup>, Kyaw Zay Ya<sup>4</sup>, Ye Min Thu<sup>4</sup>, Aung Thu<sup>4</sup>, Win Min Tun<sup>4</sup>, Aung Phyo Latt<sup>4</sup>, Zay Phyo Aung<sup>4</sup>, Myo Thant Kyaw<sup>4</sup>, Aung Htoo Kyaw<sup>4</sup> & Sitt Min<sup>4</sup>

<sup>1</sup>Professor and Head/ Senior Consultant Physician and Nephrologist, Department of Medicine/Nephrology, Defence Services Medical Academy/ No. (1) Defence Services General Hospital (1000-Bedded), Yangon, Myanmar.

<sup>2</sup>Senior Consultant Physician, No. (1) Defence Services General Hospital (1000-Bedded), Yangon, Myanmar.

<sup>3</sup>Consultant Nephrologist, Department of Nephrology, No. (1) Defence Services General Hospital (1000-Bedded), Yangon, Myanmar.

<sup>4</sup>Consultant Physician, No. (1) Defence Services General Hospital (1000-Bedded), Yangon, Myanmar.



\*Corresponding Author: Khin Phyu Pyar

### Abstract

**Background:** Peritoneal dialysis (PD) is a form of renal replacement therapy and is used for acute kidney injury as well as end stage renal disease (ESRD). For patients with ESRD, either CAPD (continuous ambulatory peritoneal dialysis) or hemodialysis (HD) is used to replace the function of kidneys; at present, in center HD is the main treatment option in Myanmar. CAPD is generally advisable in developing countries particularly in remote areas as in-center HD is not accessible in all areas. This study aimed to assess the knowledge and perception on continuous ambulatory peritoneal dialysis among physicians working at public hospitals in Myanmar.

**Methods:** A cross-sectional descriptive study was conducted among physicians, working at public hospitals in Myanmar; done in February 2023. Data were collected by using standardized forms and analysis was done.

**Results:** Among 104 physicians, the youngest was 26 years and the oldest was 88 years. More than half (57%) were working in hospitals with HD center. Less than 10% of physicians were caring cases with CAPD; less than 7% of physicians had experience with peritoneal dialysis (PD) for acute kidney injury. Regarding treatment of acute kidney injury, most of physicians (60.6%) thought that HD was better than PD; however, less than half (41.3%) of them thought that the efficacy of CAPD was the same as HD in caring patients with ESRD. Their knowledge on CAPD was good. Their agreement percentage on the advantages of CAPD over HD was as follows: patients with difficult vascular access (88%); hypotension (65%); heart failure (44%); and arrhythmia (42%). Their view on likely obstacles to CAPD (in percentage) were supply of PD solutions (71%); skin infection over abdominal wall (68%); morbid obesity (53.8%); and, PD catheter related problems (42%). From their view, the likely reasons for not establishing CAPD in Myanmar (in percentage) were suboptimal health education among general population (64%), difficulty in supply of PD fluids (64%) and technical problems (52%). Three quarter thought that CAPD was safer than HD in COVID era. Nearly ninety percent

(85.6%) were willing to get the training course on CAPD. Sixty percent of them preferred CAPD as home-based dialysis therapy (BDT) if they had a chance to make shared decision with the patients to choose between in center HD and HBDT; and they expected that the cost of CAPD should be cheaper than HD. Most of them obtained information on CAPD from internet; less than half (45%, 47/104) received training from workshop.

**Conclusions:** Their knowledge on PD was good though less than half attended workshop on CAPD. The experience on CAPD was very limited. Their perception on CAPD was positive and they want to recommend home dialysis in form of CAPD.

**Keywords:** knowledge, perception, continuous ambulatory peritoneal dialysis

**Copyright:** © 2021 The Authors. Published by Medical Editor and Educational Research Publishers Ltd. This is an open access article under the CC BY-NC-ND license (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

## Background

Chronic kidney disease (CKD) is a global problem that causes significant burden not only to the healthcare system but also to patients and their family (“Global, Regional, and National Burden of Chronic Kidney Disease, 1990-2017: A Systematic Analysis for the Global Burden of Disease Study 2017.” 2020). CKD is a progressive condition; about 10 % of the general population suffer from CKD (Kovesdy, 2022) and 5 % of them need RRT (Fasipe OJ et al, 2019). An estimated 2–7 million people with kidney failure worldwide die prematurely as they do not have access to kidney replacement therapy (dialysis or transplantation) (Kim et al., 2019) (Kovesdy, 2022). The number of people who were on kidney replacement therapy exceeded 3 million in 2017 and is projected to grow to 5.4 million by 2030. ESRD is causing challenges for both patient and their family as well as the government (Ivanov, D. et al, 2022). The reports mentioned that equity of access to dialysis facilities was not easy even in developed countries (Richard et al., 2009).

As living donor renal transplant is limited in Myanmar; renal replacement therapy either HD or CAPD can contribute to numerous clinical benefits. Both HD and peritoneal dialysis (PD) were initiated in Myanmar in 1970 (Pyar, 2022). As the number of cases on home-based dialysis therapy (HBDT) is less than 100 in whole country, expansion of HBDT should be done.

Haemodialysis requires infrastructures and facilities such as electricity, intense water consumption and buildings; it seems to have upstaged peritoneal dialysis both in demand and supply (Ivanov, D. et al; 2022).

Therefore, CAPD is generally advisable in developing countries as it is more accessible than HD.

To launch CAPD program, the physicians/nephrologists should feed the advantages and feasibility of current dialysis modality (CAPD, HD) to the Ministry/Government.

Even in developed countries, physician knowledge and attitudes toward PD had huge impact and lead to under-utilization of PD as a dialysis modality (Lalani et al., 2022). Implementation of comprehensive predialysis education programs for patients, informing government and hospital officials about PD advantages, and reinforcing PD principles to the nephrologists could improve the low prevalence of PD in Turkey (Dogan et al., 2023). The study from US demonstrated physicians’ knowledge and attitudes toward PD had impact on under-utilization of PD as a dialysis modality; these findings demonstrated a need for increased provider education around PD candidacy and the benefits of shifting dialysis care to the home. Staff

members with less training in and enthusiasm for PD, were less likely to recommend PD; therefore, educating physicians and staff, particularly about PD feasibility among various patients, could lead to greater utilization (Shen et al., 2019). Excellent knowledge in physicians would help in good decision-making process for the patients; PD participants were more engaged in the modality decision process compared to in-center HD participants (Zee et al., 2018). Therefore, it is important to assess the knowledge and perception on CAPD among physicians in Myanmar.

**Methods**

**Study design and population**

A cross-sectional descriptive study was conducted among physicians, working at public hospitals in Myanmar. Data were collected by using standardized forms and analysis was done.

**Data collection and procedure**

Physicians, working at selected public hospitals were requested to fill structured questions in February 2023. The questions were based on key 7 elements. First was related with baseline characteristics (age, duration of service, specialty, experience on CAPD, experience on PD for acute kidney injury, experience on HD). Second was knowledge on comparison of 2 dialysis modality (advantage of CAPD over HD, general comparison of PD and HD in acute kidney injury and ESRD). Third portion was knowledge on possible obstacles on CAPD such as likely obstacles to CAPD were as follows: PD solutions, skin infection, morbid obesity, PD catheter related problems, caregiver expertise, cost, diabetes mellitus, peritonitis, electricity and sustainability. Fourth part was their opinion on likely reasons for not establishing CAPD in Myanmar such as suboptimal health education among general population, difficulty in supply of PD fluids and technical problems. Fifth element was their opinion on leadership for expansion of CAPD in

Myanmar such as nephrologists, Ministry of Health, Defense Ministry, Ministry of Industry for PD fluid production, Nepro-urological Society, Physician Society and private-public partnership. the advantage of home dialysis over in-center dialysis. Sixth element was the main source of information for CAPD such as internet, textbook, health education, workshop on CAPD. Seventh was infectivity risk of COVID-19 infection in home dialysis over in-center dialysis; eighth was their preference between in-center HD and HBDT and preference between HHD and CAPD. Ninth/ Last part was their willingness to get training on CAPD. The data were checked by two medical officers and then, supervision, completeness, and consistency of collected data were performed by the principle investigator. Data were collected by using standardized forms and analysis was done.

**Statistical analysis**

The collected data were entered into Microsoft Excel 2016 and exported to IBM SPSS Statistics for Windows, Version 23.0 (Armonk, NY: IBM Corp) for analysis. Descriptive statistics were presented as frequency and percentage for categorical variables and mean (standard deviation, SD) for continuous variables.

**Results**

A cross-sectional descriptive study was conducted among physicians, working at selected public hospitals in Myanmar; done in February to April 2023. First was related with baseline characteristics (age, duration of service, specialty, experience on CAPD, experience on PD for acute kidney injury, experience on HD). Among 104 physicians, the youngest was 26 years and the oldest was 88 years. The men age was  $35.66 \pm 8.33$  years. One fourth of physicians were nephrologists/nephrology fellows; the majority (64%) were doing internal medicine. It is shown in table (1).

**Table (1) Frequency distribution of special area of interest of physicians (n=104)**

S R	Special area of interest	Frequency	Percentage
1	Cardiology	2	1.9
2	Endocrinology	5	4.8
3	Gastroenterology	2	1.9
4	Geriatric Medicine	1	1.0
5	Hematology	1	1.0

**Knowledge and Perception on Continuous Ambulatory Peritoneal Dialysis among Physicians Working in Selected Public Hospitals in Myanmar**

6	Infections	2	1.9
7	Internal Medicine	64	61.5
8	Nephrology	25	24.0
9	Neurology	2	1.9
	Total	104	100

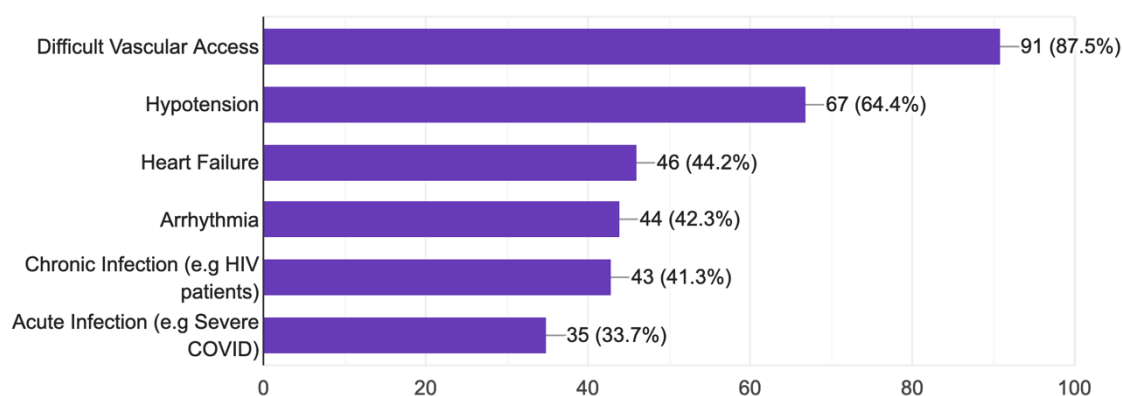
More than half (55%) were working in hospitals with HD center; they were exposed to cases with both acute kidney injury and chronic kidney disease. Less than 10% of physicians were caring cases with CAPD; however, less than 7% had experienced with PD in acute kidney injury.

Second was concerned with their knowledge on comparison of 2 dialysis modality (advantage of

CAPD over HD, general comparison of PD and HD in acute kidney injury and ESRD). The percentage of agreement on the advantage of CAPD over HD was as follows: patients with difficult vascular access (88%); hypotension (65%); heart failure (44%); and arrhythmia (42%). It is demonstrated in figure (1)

**CAPD is better than HD in such conditions**

104 responses



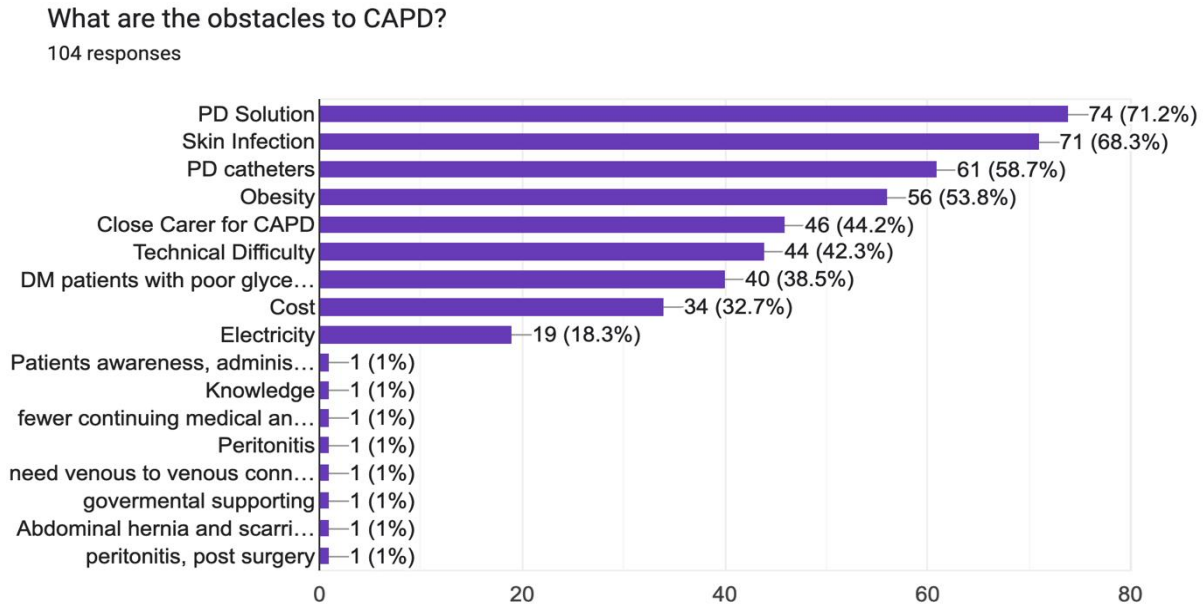
**Figure (1) Response of physicians' agreement percentage on conditions favorable to CAPD than HD (n=104)**

Regarding treatment of cases with acute kidney injury, most of physicians (60.6%) thought that HD was better than PD. On the other hand, 41.3% of them thought that the efficacy of CAPD was the same as HD for patients with ESRD.

Third portion was knowledge on possible obstacles on CAPD; PD solutions, skin infection,

morbid obesity, PD catheter related problems, caregiver expertise, cost, diabetes mellitus, peritonitis, electricity and sustainability. As demonstrated in figure (2), their view on likely obstacles to CAPD were as follows: PD solutions (71%); skin infection (68%); morbid obesity (53.8%); PD catheter related problems (42%).

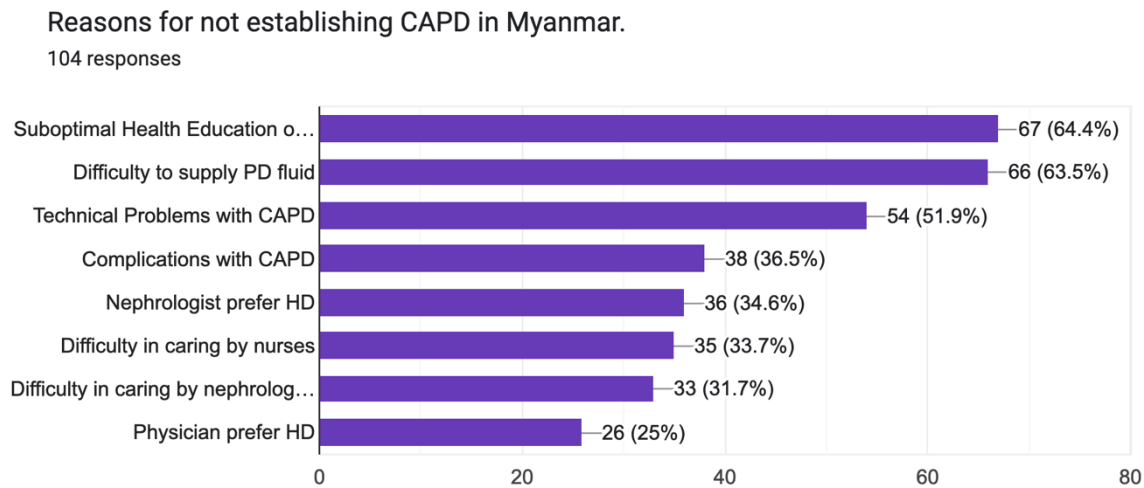
# Knowledge and Perception on Continuous Ambulatory Peritoneal Dialysis among Physicians Working in Selected Public Hospitals in Myanmar



**Figure (2) Frequency distribution of likely obstacles to CAPD from physicians' view (n=104)**

Fourth part was their opinion on likely reasons for non-expanded CAPD program in Myanmar such as suboptimal health education among general

population, difficulty in supply of PD fluids and technical problems. It is illustrated in figure (3).



**Figure (3) Frequency distribution of physicians' view on possible reasons for non-expanded CAPD program in Myanmar (n=104)**

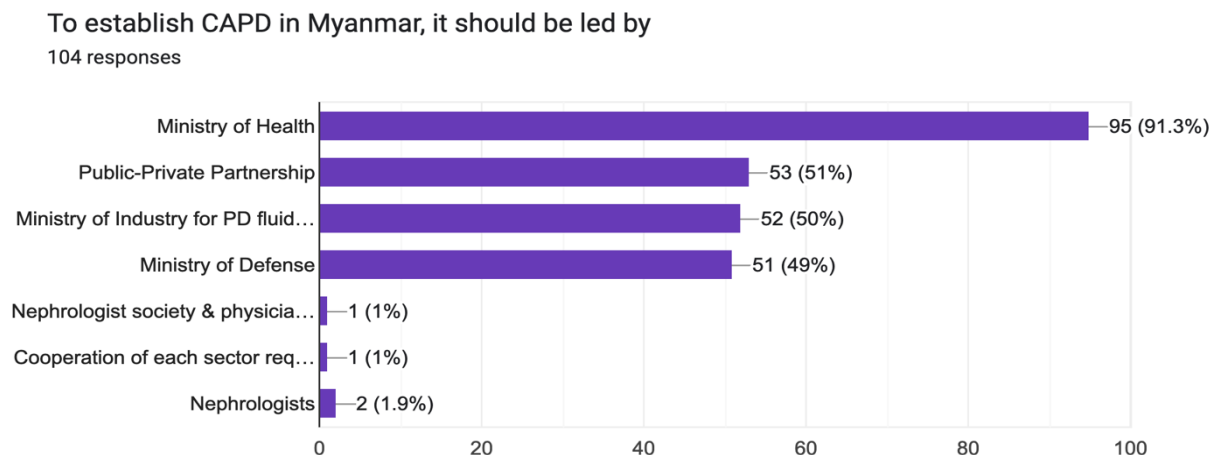
Concerning the likely reasons for limited CAPD program in Myanmar were suboptimal health education among general population (64%), difficulty in supply of PD fluids (64%) and technical problems (52%).

Fifth element was their opinion on the role of leadership for expansion of CAPD in Myanmar such as nephrologists, Ministry of Health, Defense Ministry, Ministry of Industry for PD fluid production, Nepro-urological Society, Physician



# Knowledge and Perception on Continuous Ambulatory Peritoneal Dialysis among Physicians Working in Selected Public Hospitals in Myanmar

Society and private-public partnership. It is elaborated in figure (4).

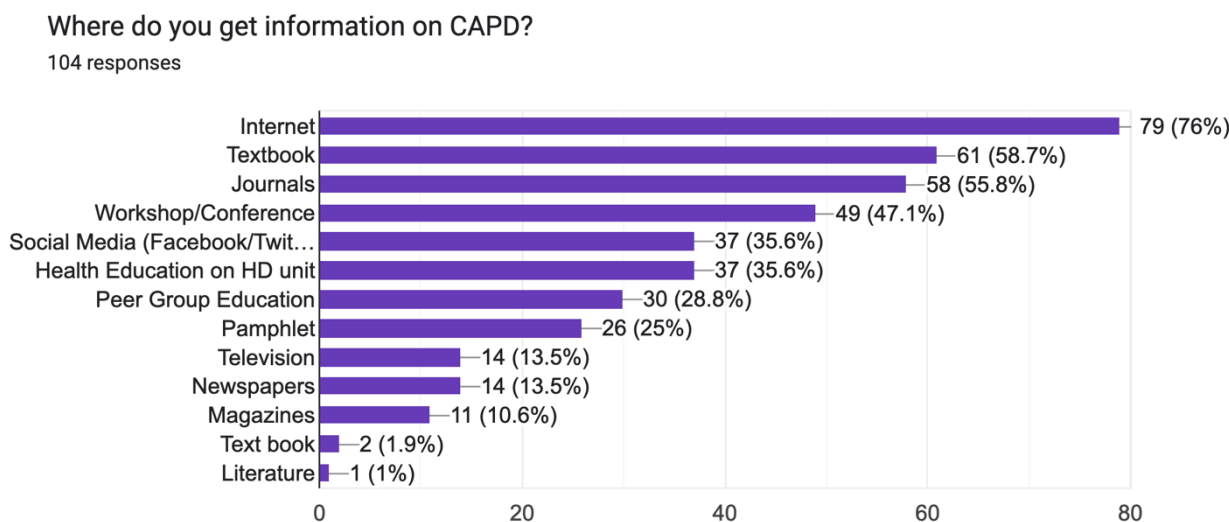


**Figure (4) Frequency distribution of physicians' view on leading role of various ministries/society in expanding CAPD program**

To expand CAPD in Myanmar, the initiatives of nephrologists was more important than policy makers-ministerial level. However, the real leader was Ministry of Health for launching CAPD; his leadership must be followed by other ministries (Defence Ministry, Ministry of Industry for PD fluid production). Moreover, public-private

partnership also played an important role as the country was not rich.

Sixth element was the main source of information for CAPD such as internet, textbook, health education, workshop on CAPD. It can be clearly seen in figure (5).



**Figure (5) The frequency distribution of the source of information on CAPD obtained by physicians (n=104)**

The proportion of physicians who learnt CAPD from workshop was 45% (47/104); most of them obtained information from internet.

Seventh was the infectivity risk of COVID-19 infection in home dialysis over in-center dialysis;

## Knowledge and Perception on Continuous Ambulatory Peritoneal Dialysis among Physicians Working in Selected Public Hospitals in Myanmar

three quarter thought that CAPD was safer than HD in COVID era.

Eighth was their preference between in-center HD and HBDT, and preference between HHD and CAPD. Sixty percent of them preferred CAPD as home-based dialysis therapy (HBDT) if they had a chance to choose between in center HD and HBDT. They love CAPD as the cost of CAPD was cheaper than HD in neighboring country.

Ninth/ Last part was their willingness to get training on CAPD. Nearly ninety percent (85.6%) were willing to get the training course on CAPD.

### Discussion

As ESRD population is growing, most of the countries are facing big economic issue for RRT. Tackling dialysis burden around the world is a global challenge; therefore, it would be more challenging in developing countries. It was not easy to invest most of the health budget for RRT. On the other hand, the number of health care workers was not enough to run all HD centers. Therefore, all cases of ESRD could not get access to RRT for various reasons even in developed countries. Concerning CAPD, HD availability, number of HD center, and distance to HDC were found to be non-medical reasons that govern CAPD utilization (Wauters & Uehlinger, 2004). There are 14 States and Divisions in Myanmar. Seven States occupy hilly regions where they are less populated: Shan State, Kachin State, Chin State, Rakhine State, Kayah State, Kayin State and Mon State. Seven Divisions are non-hilly areas; thus, they are densely populated. They are Yangon Division, Naypyitaw Division, Mandalay Division, Sagaing Division, Bago Division, Magway Division and Irrawaddy Division. Although all States and Divisions have HD centers, the number of HD centers are more in Divisions and less in States. Therefore, we need CAPD for those living in States to get 'Kidney Health for All'.

Among 104 physicians, the mean age was  $35.66 \pm 8.33$  years and a quarter of them were over 40 years; reflecting excellent clinical experience. In addition, one fourth of them were nephrologists/nephrology fellows. According to Myanmar Medical Council, the total number of registered nephrologists in Myanmar was less than fifty in whole country; therefore, this study probably reflected the knowledge and attitude of

nearly half of total number of nephrologists from Myanmar.

More than half (55%) were working in public hospitals with HD center; hence, they were exposed to cases with both acute kidney injury and chronic kidney disease. Therefore, they knew the difficulties faced by cases doing in-center HD. Less than 10% of physicians were caring cases with CAPD; it showed the limited scope of CAPD in Myanmar. Concerning cases on CAPD in Myanmar, the total maximum number was less than a hundred and half of them were in remote areas. The population of Myanmar is 55 million and the number of chronic kidney disease is expected to be 5 million; the number requiring RRT would be expected as 2.5 million. It also highlighted the need for expansion of CAPD program in Myanmar. CAPD would be better than home hemodialysis (HHD) in resource poor setting (Pyar, 2022). One report mentioned that cost of PD was not more expensive than that of HD (Karopadi et al., 2013). The study from Australia identified the importance of financial hardships though HD centers were supported by government (Scholes-Robertson et al., 2022). Therefore, there was a big room to expand CAPD program in Myanmar.

Second was concerned with their knowledge on comparison of 2 dialysis modality. Their knowledge on CAPD was good. The percentage of agreement on the advantage of CAPD over HD was fairly acceptable. Regarding treatment of cases with acute kidney injury, most of physicians (60.6%) thought that HD was better than PD; it was acceptable because they had limited exposure on PD. On the other hand, 41.3% of them thought that the efficacy of CAPD was the same as HD for patients with ESRD; it was fairly good as general comments.

Third portion was knowledge on possible obstacles on CAPD in Myanmar. Their view on likely obstacles to CAPD were PD solutions, skin infection, morbid obesity, and PD catheter related problems. In Myanmar, PD solutions were imported from neighboring country. There was a terrible event during COVID-19 era ; PD solutions were out of stock for one month. It highlighted the requirement to produce PD solutions locally in Myanmar. The study from US demonstrated the impact of physician knowledge and attitudes toward PD in the under-utilization of PD as a

## Knowledge and Perception on Continuous Ambulatory Peritoneal Dialysis among Physicians Working in Selected Public Hospitals in Myanmar

dialysis modality; the need for increased provider education around PD candidacy and the benefits of shifting dialysis care to the home. Even in developed countries, physician knowledge and attitudes toward PD had huge impact and lead to under-utilization of PD as a dialysis modality (Lalani et al., 2022). In this study, the knowledge of physicians on CAPD was very good; their attitudes were positive.

Fourth part was their opinion on likely reasons for non-expanded CAPD program in Myanmar. Concerning the likely reasons for limited CAPD program in Myanmar were suboptimal health education among general population, difficulty in supply of PD fluids and technical problems. Health education among general population was extremely important and it required enforcement. Several studies pointed out the value of health education in expansion of HBDT. Knowledge and attitude on HBDT were significantly improved through web based education (Bennett et al., 2014). Therefore, to improve their knowledge, education program is urgently needed. The study in Iran confirmed that health education (group discussion and teach-back self-care education) on the knowledge, attitude, and performance of hemodialysis patients had significant improvement (Borzou et al., 2019). The reports proved that the knowledge on CAPD could be promoted by workshops, hands-on training (Shiff et al., 2014) and web teaching (Bennett et al., 2014). Health care persons with less training in and enthusiasm for PD, were less likely to recommend PD (Shen et al., 2019); however, physicians were keen to get training on CAPD in this study. It was contrary to study from developed countries where novel models of dissemination were needed to increase the adoption of PD and meet federal policy goals of shifting dialysis care to home-based modalities (Zee et al., 2018).

Fifth element was their opinion on the role of leadership for expansion of CAPD in Myanmar such as nephrologists, Ministry of Health, Defense Ministry, Ministry of Industry for PD fluid production, Nepro-urological Society, Physician Society and private-public partnership. To expand CAPD in Myanmar, the initiatives of nephrologists was more important than policy makers-ministerial level. However, the real leader was Ministry of Health for launching CAPD; his

leadership must be followed by other ministries (Defence Ministry, Ministry of Industry for PD fluid production). Moreover, public-private partnership also played an important role as the country was not rich. It was influenced by national policy lead by ministries (Lukkanalikitkul et al., 2022). Implementation of comprehensive predialysis education programs for patients, informing government and hospital officials about PD advantages, and reinforcing PD principles to the nephrologists could improve the low prevalence of PD in Turkey (Dogan et al., 2023). Therefore, we should propose the advantages of CAPD to the government- Ministry of Health. US study pointed out that educational innovation and optimization of resources at both the institutional and national levels may improve confidence and promote public policy goals regarding HBDT. Reallocation of man, materials and money to kidney health by modification of health policy should be done as suggested by other study (Crews & Novick, 2020). The role of policies was the main key player in achieving equity in dialysis care and outcomes. Tackling dialysis burden was epidemic (Li et al., 2021). Therefore, we need more HDC and human resources. If possible, HBDT should be launched. Strengthening the structure of dialysis program on CAPD at national level could lead to expansion of CAPD utilization (Wauters & Uehlinger, 2004).

Sixth element was the main source of information for CAPD such as internet, textbook, health education, workshop on CAPD. The proportion of physicians who learnt CAPD from workshop was 45% (47/104); most of them obtained information from internet. It supported the requirement for hands-on training and workshop on CAPD in Myanmar. Educating physicians and staff, particularly about PD feasibility among various patients, may lead to greater utilization.

Seventh was the infectivity risk of COVID-19 infection in home dialysis over in-center dialysis; three quarter thought that CAPD was safer than HD in COVID era. The physicians had bitter experience about COVID-19 infection and they agreed that the hospital environment was risky for infection. COVID-19 infection had profound effect on patients with dialysis (El Karoui & De Vriese, 2022) (Demiray et al., 2022). Several studies highlighted that the prevalence of COVID-19 infection was higher in patients on in-center



# Knowledge and Perception on Continuous Ambulatory Peritoneal Dialysis among Physicians Working in Selected Public Hospitals in Myanmar

HD than those on HBDT (Salerno et al., 2021). Moreover, the severity of COVID-19 infection as well as mortality rate was high in patients with CKD/ESRD particularly on RRT (Fisher et al., 2020) (Ibernon et al., 2021) (Jin et al., 2021). Therefore, creating HBDT could lead to less infectious environment for them.

Eighth was their preference between in-center HD and HBDT, and preference between HHD and CAPD. Sixty percent of them preferred CAPD as home-based dialysis therapy (HBDT) if they had a chance to choose between in-center HD and HBDT. They love CAPD as the cost of CAPD was cheaper than HD in neighboring country. Attitude towards home-based dialysis therapy (HBDT) was important to get rid of barriers to CAPD (Wauters & Uehlinger, 2004).

Ninth/ Last part was their willingness to get training on CAPD. Nearly ninety percent (85.6%) were willing to get the training course on CAPD. According to the study from Turkey, implementation of comprehensive predialysis education programs for patients, informing government and hospital officials about PD advantages, and reinforcing PD principles to the nephrologists could improve the low prevalence of PD in Turkey (Dogan et al., 2023). The study from US mentioned that the impact of physician knowledge and attitudes toward PD was essential for long term success in CAPD program (Lalani et al., 2022). Staff members with less training in and enthusiasm for PD, were less likely to recommend PD, and were more likely to cite patient preference as a barrier to PD growth. Educating physicians and staff, particularly about PD feasibility among various patients lead to greater utilization of CAPD (Shen et al., 2019) (Wauters & Uehlinger, 2004).

## Limitation of study

There are several limitations in this study. The sample size was not large as it was conducted in selected public hospitals. The analysis would be better if larger number of physicians/nephrologists were included. Exposure to daily practice on CAPD was small in this study. Their perception on CAPD may change if they had great exposure to cases with CAPD.

## Conclusions

Their knowledge on PD was good though they had minimal training on CAPD. Their experience on CAPD was very limited. Their perception on CAPD was positive and they want to recommend HBDT in form of CAPD. Their attitude to CAPD training was positive.

## Recommendations

To improve knowledge and perception on CAPD, education programs are recommended. Implementation of CAPD at national level is essential like making national policy for CAPD. It should be followed by implementation at regional level (pre- and post-graduate education to doctors and medics) and township level (education and communication, logistics).

## Acknowledgment

We are thankful to Professor Ko Ko Lwin, Professor Kyaw Zay Ya, Directorate of Medical Services; Professor Myint Zaw (Yangon HDC), Professor Aung Myat Kyaw (NayPyi Taw HDC), Professor Myo Thant and Professor Saw Yan Naing for their administrative support. We are also grateful to all patients and health care personnel included in this study.

## Ethical consideration

The data collection using standardized forms was approved by Hospital Ethics Review Committee of Defence Services General Hospital, Mingaladon. Informed consent was taken from nephrologists and physicians. Privacy and confidentiality of information was maintained throughout the study process.

## Conflict of interest

There was no COI.

## Funding

No funding was obtained.

## References

1. Dogan, I., Ucar, E., Oruc, A., & Ates, K. (2023). The perception of nephrologists about peritoneal dialysis in Turkey. *Therapeutic Apheresis and Dialysis: Official Peer-Reviewed Journal of the International Society for Apheresis, the Japanese Society for Apheresis, the Japanese Society for Dialysis*

## Knowledge and Perception on Continuous Ambulatory Peritoneal Dialysis among Physicians Working in Selected Public Hospitals in Myanmar

- Therapy, 27(1), 100–106. <https://doi.org/10.1111/1744-9987.13903>
- Lalani, H. S., Ganguly, A., Brown, L. S., Smartt, J., Johnson, D. H., Bhavan, K. P., & Saxena, R. (2022). Physician Knowledge and Attitudes Toward the Adoption of Peritoneal Dialysis in the Treatment of Patients With End-Stage Kidney Disease. *Cureus*, 14(12), e32708. <https://doi.org/10.7759/cureus.32708>
  - Shen, J. I., Schreiber, M. J., Zhao, J., Robinson, B. M., Pisoni, R. L., Mehrotra, R., Oliver, M. J., Tomo, T., Tungsanga, K., Teitelbaum, I., Ghaffari, A., Lambie, M., & Perl, J. (2019). Attitudes toward Peritoneal Dialysis among Peritoneal Dialysis and Hemodialysis Medical Directors: Are We Preaching to the Right Choir? *Clinical Journal of the American Society of Nephrology*, 14(7). [https://journals.lww.com/cjasn/Fulltext/2019/07000/Attitudes\\_toward\\_Peritoneal\\_Dialysis\\_among.16.aspx](https://journals.lww.com/cjasn/Fulltext/2019/07000/Attitudes_toward_Peritoneal_Dialysis_among.16.aspx)
  - Zee, J., Zhao, J., Subramanian, L., Perry, E., Bryant, N., McCall, M., Restovic, Y., Torres, D., Robinson, B. M., Pisoni, R. L., & Tentori, F. (2018). Perceptions about the dialysis modality decision process among peritoneal dialysis and in-center hemodialysis patients. *BMC Nephrology*, 19(1), 298. <https://doi.org/10.1186/s12882-018-1096-x>

**Cite this: Pyar, K. P. ., Myint, M. Z., Kyaw, A. P., Lwin, K. T. Y., Maung, L. M., Hein, Y. M., Hla, S. A., Win, T., Aung, Z. H., Myint, T. T., Aung, H. L., Maung, K. T., Ya, K. Z., Thu, Y. M., Thu, A., Tun, W. M., Latt, A. P., Aung, Z. P., Kyaw, M. T., Kyaw, A. H., & Min, S. (2023). Knowledge and perception on continuous ambulatory peritoneal dialysis among physicians working in selected public hospitals in Myanmar. *Journal of Medical Research and Health Sciences*, 6(7), 2648–2657. <https://doi.org/10.52845/JMRHS/2023-6-7-1>**