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ARCHIVES OF
Renal Diseases and Management

ISSN: 2455-5495 DOI: https://dx.doi.org/10.17352/ardm

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Received: 19 August, 2019
Accepted: 16 September, 2019
Published: 17 September, 2019

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Research Article

How end stage renal disease creates, enhances and promotes poverty for patients in the United States

Introduction

End Stage Renal Disease impacts the lives of over 750,000 patients and their families in the United States. It is well documented that the treatment is both expensive and takes a physical and financial toll on the patient and their respective families [1]. Depending on the treatment modality, many patients fall out of the workforce under the age of 65 and depend on disability to survive creating an additional expense for the government and the general economy through a lower utilization of the workforce [2]. The question, which has been somewhat explored, is if the diagnosis of renal failure leads to inevitable poverty? Despite coverage ratios and access to care, it still seems to negate that undergoing such a treatment regime removes the economic impact to the patient as well as society in general in addition, in many cases, of a quality of life previously experienced. If indeed dialysis results in patients facing an economic burden that translates into poverty, are there treatments that unlike in-center hemodialysis, can maintain a patient's employment and financial viability? Treatments such as home hemodialysis (HHD) and peritoneal dialysis (CCPD) seem to provide a better financial environment and thus a positive economic contribution to the general economy but may remain outside of a patients access for a variety of reasons.

Poverty and dialysis

As with many chronic diseases, renal failure in particular tends to target the working poor via diabetes, hypertension, and general access to care. Obviously, not all patients with chronic kidney disease are in this category, but a majority of these patients are from a lower socio-economic status than their minority counterparts often waiting until symptoms accumulate driving them into the emergency room and eventually dialysis. Thus, one might conclude that lack of access to preventative care combined with elevated incidence and prevalence of diabetes and hypertension hold this group of patients in the economy into a financial segment or a level prohibiting them from monetarily advancing in society once treatment in the in-center outpatient clinic has been engaged with the opposite effect of actually diminishing any accumulated assets.

This happens to not only be an American problem, but also a global issue with regards to the financial burden of health care. Analysis and research confirm this economic burden countries as Australia as well [3]. Patients, because of their respective diagnosis, and recommended treatment options, are almost always steered towards in-center hemodialysis as the likely easy choice. However, the overall economic benefit would say otherwise.

The question at hand is whether or not dialysis "must or has to" drive patients into financial peril. Obviously, there are a series of multiples that can impact this outcome, but the overwhelming majority of these patients appear to be a reflection of the lower socioeconomic class. This is not to argue that the system is rigged in such a way to target the poor or lower class at the hands of the upper middle class to ensure some type of preconceived class structure. Rather, that the disease tends to fall upon the hands of the less fortunate that may or may not be driven into accepting a specific treatment modality based on a physician's recommendation. Government systems have been put in place to assist those with this disease and condition, but given treatment duration, available time slots, and impact of treatment, patients may not have the physical stamina to continue employment as they once did placing an undue burden on their families.

Results

From an overall economic impact of treatment modalities, there is less of an impact economically from utilizing

Citation: Sullivan JD (2019) How end stage renal disease creates, enhances and promotes poverty for patients in the United States. Arch Renal Dis Manag 4(1): 008-011. DOI: https://dx.doi.org/10.17352/2455-5495.000032

peritoneal dialysis and home hemodialysis than the traditional in-center dialysis. Patients do, from an economic standpoint, as well as the entire reimbursement system, benefit from these treatment modalities. Both payers and medical schools, as well as, hospital systems need to embrace this paradigm shift. Further research is required into how this implementation should proceed.

Analysis & Discussion

Other treatment modalities exist for renal patients that may enhance both their quality of lifestyle so long as they meet a certain medical criteria above and beyond the sought after transplantation as well as the trust of their medical providers. Peritoneal dialysis, despite some life changes that are as simple but emotional removal of pets from the home, creates a higher probability of remaining in the workforce than the traditional in-center treatment regime [3]. Home hemodialysis prescriptions with six shorter dialysis sessions a week also presents a preferred total economic option with the lifestyle benefits of peritoneal dialysis [3]. Despite these benefits, both treatment modalities remain underutilized as compared to the in-center treatment prescription [3].

Granted, there are definitive downsides to both treatment modalities. Peritoneal dialysis and home hemodialysis place a considerable burden on the patient coupled with the trust of the prescribing physician. Patients undergoing peritoneal dialysis also face the risk of developing peritonitis during their treatment often requiring hemodialysis during their recovery. In many ways, this defeats the purpose of the treatment as prescribed. But despite this risk, the patient does indeed have a better quality of life and can continue to contribute to industry creating an economic contribution while maintaining a socioeconomic position beneficial to their respective family and community.

Home hemodialysis also places a large burden on both the patient and the care provider, usually a spouse. While the machines are more sophisticated and transportable than in the past, it would be naïve to see the process as a pure simple process. At the end of the day, it is still a complicated life preserving medical procedure. That said, manufacturers such as NxStage, has developed centers whereby patients can dialyze daily under the supervision of medical professionals. These advancements in treatment options may be altered or removed following the acquisition of NxStage by Fresenius Medical Care, but provide a much needed option for patients that are not quite comfortable with conducting the procedure in a home setting.

Given the trust the medical community training by patients, which is obviously earned, these families will often tend to not ask questions and follow the prescribed method of treatment such as hemodialysis [3]. In a way, this situation is almost unheard of. In other words, parents question their children's teacher and may push back on their attorney. However, most patients tend to trust the opinion of their physician without any question as to outcomes or quality of life.

The reimbursement factor

The reimbursement for treatments other than in-center hemodialysis also presents a problem for change. Peritoneal dialysis is a variable cost treatment whereby the costs of treating the patient is higher than that of a highly utilized out-patient clinic [3]. It additionally places a great deal of responsibility on the patient with the underlying concern of peritonitis. In the end, peritoneal dialysis is still economically feasible in the grand economic concern due to their ability not to drop out of the workforce and contribute to the macro-economy [3]. Nephrologists have embraced this only in that the general population have been early to dialysis and can afford the higher reimbursement rates by commercial carriers prior to most being ultimately prescribed home hemodialysis [3].

Home hemodialysis has been embraced by multiple countries in Europe most notably France, the United Kingdom, and Germany [4]. Despite significant advancements in this technology, reimbursement has lacked behind in the United States. Reimbursement has lacked following the standard three treatments per-week forgetting the additional supply costs such as dialyzers and lines from the six times a week regime [3]. This seems to be short sighted given the flexibility of patients and their greater economic contribution to their respective communities and the general national population.

In general, these alternative treatment modalities have been viewed with some intimidation by practicing nephrologists given some risk in shifting treatment responsibility to the patient. This does make sense given the relatively easy decision to simply prescribe a patient care under the supervision of a medical professional within an outpatient clinic. For nephrologists, this is likely less of a cost based decision and more of a risk decision coupled with possible lack of training in other modalities. However, looking at a macro-economic view of the disease, physicians will need to change their perspective on patient treatment and fully engage in patients being able to choose either PD or HHD as an option to reduce overall costs to the system and increase patients ability to remain in the workforce. Given the fact that the majority of the entire system is controlled by DaVita and Fresenius [5], this may be a difficult task given that publicly traded companies are more concerned with profitability employing physicians as medical directors creating a somewhat conflict of interest to reduce costs as much as possible while attempting to maximize patient outcomes.

Conclusion

Dialysis directly does not necessarily create an environment of poverty, but depending on the patient and the treatment modality, can certainly edge patients into a lower economic lifestyle that would not have necessarily been on this economic track prior to diagnosis. Transplantation remains the optimal treatment for ESRD, but a lack of organs limits this obvious benefit for patients. Patients are so desperate for organs that they are soliciting organs on billboards and other social media [6]. As previously stated, this is an option that is such at a low percentage of probability, that patients are likely condemned to the modality driven by nephrologists either not trained in in peritoneal dialysis or home hemodialysis. The result is

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often a group of patients that are or may be suitable for CCPD or Home Hemo dialysis that are left to a clinical regime that relegates them to a life of poverty and certainly a limitation in the accessability to work accessibility.

For the United States to step forward, like many of our health care equals and partners in Europe, the community, partnerships, and governmental organizations needs to address the issue from both a patient care and the humanitarian perspective as well as an economic analysis methodology and the general view on quality of life. Dialysis will always be an expensive treatment, but the costs can be reduced with a higher quality of life for patients. But the treatment doesn't have to cost as much as it does if providers are willing to promote other modalities outside of the standard in-center thrice a week treatment that Fresenius and DaVita promote given their large investment in free-standing clinics. It must also be noted that these two providers create more wealth for their investors via this treatment option. Patients tend to be in a lower state of health than those with the option of home hemodialysis or peritoneal dialysis and have a greater need for pharmaceuticals such as Epogen and other tests that creates additional revenue although some of this has been maintained through a movement towards a Medicare capitated system of reimbursement but this may not pertain to the higher paying commercial insurance patients which serves as the revenue life of any dialysis provider as the reimbursement is significantly higher than their respective governmental counterpart.

It comes from the bottom down because it is typical for patients to not question their respective PCP (Patient Care Physician) or their nephrologist. Physicians need to be trained outside the traditional hemodialysis from the 1970's and embrace other treatment modalities. Medical schools must also support and be advocates for changes in treatment for dialysis. This does not insinuate that all patients are qualified for other treatments outside the typical in-center option. However, it does suggest a change in medical strategy that both benefits some patients as well as the overall economy. This training is something that is relatively routine and can be done through a residency as well as post-medical degree training.

End Stage Renal Disease, despite its tremendous economic cost, can actually live up to its true intentions and serve as a model for reducing expenditures. However, with the pressure from the top two providers of dialysis service combined with government agencies that seem to either be unaware or apathetic about treatment options with the goal of only lowering their own specific expenditures, oversee the greater impact of the burden the treatment places on the overall economy.

There is some hope on the shift from the standard prescription of outpatient dialysis to home hemodialysis from the top ten providers, but it seems to be not enough to control costs and provide enhanced care. Patients requiring dialysis, as reported by the top ten dialysis provider companies are about 3% including mortality [7]. Home therapies have grown faster than the total average of about 7.2% for home hemo therapies and 6.7% for peritoneal dialysis over the past ten years for the top ten providers [8]. These numbers are a start, but far from a meaningful impact on dialysis patients in general.

Policy, in many ways has shifted from the major payor for dialysis to the providers themselves with regards to patient treatment modality. Policy makers historically have provided payment via the Medicare system with little regard as to patient outcomes, economic entirety from a macroeconomic scale, and most importantly, prevention. As of 2019, of the top 10 providers, Fresenius Medical Care North America and DaVita Kidney Care oversee the treatment of 412,007 patients of the 484,863 patients within the systems of the largest ten treatment providers.

For those seeking alternative therapies, the growth is surface wise impressive although home hemodialysis only represents 1.8% of total therapies that patients are undergoing combined with 10.4% of patients utilizing peritoneal dialysis from the top ten provider's population. Certainly, there are clinical issues associated with the leaning towards in-center therapies despite the benefits of home therapies both on a clinical level as well as a general economic benefit for society as a whole. These statistics are a bit troubling despite the data that outcomes are typically higher for patients with frequent dialysis than those with a three treatment per week regime under multiple settings [9].

The key is to keep patients off of dialysis. Medicare needs to be an active participant along the way instead of a bystander that complains about the bill. Once a patient is diagnosed with chronic kidney disease, CMS should be part of the treatment plan to keep a patient as far away from dialysis as possible. Patients that stay off of dialysis as well as those that choose different modalities may remain the better treatment as well as the economic contribution to the general community.

One way to accomplish this task is to extend Medicare to patients that may serve as clinical candidates for either home hemodialysis or peritoneal dialysis (likely CCPD) upon initial diagnosis acting more as an advocate than a simple insurance payor. In addition, the federal government needs to seek a more active economic role for reducing expenditures by dictating policy that reflects both the patient outcomes as well as the reduction in general cost. For example, it is more expensive to treat patients in an out-patient home setting given the extra treatments and supply costs. However, it is less expensive than treating someone in an outpatient clinic with many dropping out of the work force.

Reduction in cost is on the table although combined with a focused approach to treatment is necessary coming from those that pay for it. At this point, Medicare has moved itself into a position of reduction in total cost via reducing the reimbursement rate without any involvement with how to reduce the number of patients before dialysis is necessary. From an economic standpoint, this is unattainable.

From a moral standpoint, the current standard of placing patients in clinics whereby other feasible options may reduce not only expenditures, but also raise the bar on patient outcomes

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and well-being via contributing to the economic development of a community is underappreciated. But to argue that one that is diagnosed with ESRD is from a financial perspective, taken care of, is a bit of a misnomer. Patient themselves, to be transparent, are taken care of via their treatment. Many patients also qualify for Social Security Benefits as being disabled. However, this is an economic benefit that provides, if to be generous, the basics utilizing an already bankrupt system to pay for the benefits of those within the health entitlement.

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