Missed Physiotherapy Appointment and Its Influence on Cost, Efficiency and Patients' Outcomes

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Abstract

Background. *Missed appointments is a significant challenge to efficient running of physiotherapy departments and it has cost implications. In this study, wait time, and pattern, predictors and impact of Missed appointments (MAs) on cost, efficiency and recovery time was assessed among Nigerian patients receiving physiotherapy.*

Method. *In this retrospective study a total of 3,243 physiotherapy appointments were booked between 2009 and 2019 at an Outpatient Physiotherapy Clinic in Nigeria. Data were collected on Missed appointments, on costs of of treatment and on socio-demographic characteristics. The total revenue loss due to missed appointments was calculated as a product of the total of Missed appointments and cost per treatment; recovery time was also estimated.*

Results. *Missed appointments were 1,701 out of 3,243 booked (52.5%) and the average wait time for the first appointment was 9.6 ± 23.2 days. The proportion of Missed appointments was higher among females (50.2%), patients who were not resident of the same location as the clinic (45.3%), patients with orthopaedic conditions (56.2%) and patients referred from an orthopaedic surgeon (32.8%). Females, those who live within the city, and those with neurological/medical conditions were 1.68, 1.24, and 1.52 times more likely to have Missed appointments compared to males (OR = 1.68, Confidence intervals = 1.44 – 1.96, p = < 0.001), those who live outside the city (OR = 1.24, CI = 1.05 – 1.46, p = 0.01), and to those who have orthopaedic conditions (OR = 1.52, CI = 1.20 – 1.93, p = < 0.001), respectively. Using per treatment schedule cost of ₦1000 (an equivalent of $ 2.31), a 52.5% Missed appointments rate resulted in lower efficiency of 76.6% with an efficiency ratio of 0.23. Further, a 52.5% Missed appointments rate could potentially impact patient recovery time by 3402 days if Missed appointments slow a patient recovery process by 2 days.*

Conclusions. *Missed appointments for physiotherapy treatment pose a significant challenge in terms of costs, efficiency, and patient recovery time. Thus, an innovative reminder system may help reduce patients' non-attendance to physiotherapy and its consequences.*

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Introduction

A missed appointment (MA) is a term that describes when a patient does not show up for an appointment nor comes to re-book or notify staff of a cancellation (1, 2). MAs are a significant challenge in the healthcare setting (3) and it significantly affects patients' treatment outcomes, recovery time, and quality of life (2, 4). There is substantial evidence that failure to keep scheduled clinical appointments disrupts clinic workflow and delivery of optimal services, reduces the efficiency of treatment and increases recovery time, causes premature discontinuation of clinical services, reduces clinic revenue, and stimulates negative clinician attitudes (2, 4-6). Also, clinical administrators, health care providers, and hospital managers find MAs challenging in terms of underutilisation of healthcare resources, cost and productivity (2, 4, 7-9).

Reports suggest that MA rates may vary slightly between countries, healthcare systems, and clinical settings (10). Thomas et al. (6), posits that an average of 31% of all appointments eventually become MAs. Forgetting a scheduled medical appointment was the most common reason given by patients for MAs (6, 11). Also, it has been observed that the rate at which appointments are missed increases with increasing time between scheduling and the actual appointment (12, 13). Other factors associated with high MAs include being of younger age, lower socioeconomic status and a positive history of failed appointments (4, 13). In a systematic review, failure to keep an appointment was related to both institutional and patient factors, patient characteristics and interpersonal factors, as well as healthcare system and provider-related factors (14). Patients' characteristics involve the patient's age, and the patient's first visit or return visit (15). Organizational factors entail treatment cost and clinical environment (14), while extrinsic factors include forms of payment, source of referral, and proximity to clinic (15). However, the degree to which these factors affect MAs varies from one setting to another (14, 15).

MAs constitute a significant challenge on care services workflow and have enormous consequences on patients' outcomes (16). Still, few studies have explored MAs and their implications in physiotherapy (16-18). Available studies indicate that missed physiotherapy appointments occur in over 70% of referrals to physiotherapy (16, 18) and this huge rates of MAs significantly impact clinic revenue (16-18). Though studies on MAs are generally few in physiotherapy, they are even rarer in low-and-middle income countries. For example, only one study currently exist on missed physiotherapy appointments in Nigeria, the most populous country in Sub-Sahara Africa (18). Thus, inviting the need for more studies, especially in regions where such information gaps exist. Data on levels, correlates and impact of MAs has policy and planning implications for clinic administrators and the government. The objective of this study was to assess wait time, and the pattern, predictors and impact of MAs on cost, efficiency, and patient's recovery time among Nigerian patients receiving physiotherapy.

Materials and methods

A retrospective audit from 2009 - 2019 of patients who missed their clinic appointments at the physiotherapy outpatient department of the Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Osun State, Nigeria, was conducted. Case charts of patients who missed their clinical appointments within the set period were involved in the study. Records of patients who contacted the physiotherapy record unit in advance to cancel their appointments or reschedule and those with incomplete

information were excluded from the study.

Ethics and Research Committee of the Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria gave approval for this study. A self-developed proforma was used to glean information from the case charts. Data collected includes MAs, cost of treatment, revenue loss due to MAs, recovery time and socio-demographic data. Socio-demographic variables include age, sex, and the location of their residence. In line with the earlier study by Mbada et al. (18), a MA was operationally defined as a scheduled follow-up appointment that a patient does not show up for, nor comes to rebook. MA-related variables gleaned in this study include number of MAs, the month of appointments, diagnosis, wait time, source of referral, the per treatment revenue generated from patients that kept their appointments, and the total number of appointments between the years 2009 and 2019.

A total of 3,500 case files were reviewed; however, only 3,243 case files contained complete information on MAs. The following computations were used in this study:

- Outpatient physiotherapy (OPR) = total number of appointments X per treatment schedule cost.

- Liability = OPR - Revenue generated by the patients that kept their appointments.

- Assets = OPR - Revenue generated by the patients that missed their appointments

- Total revenue loss due to MAs = total number of MAs per treatment schedule cost.

- Efficiency ratio = Current Liability/ Current Assets

Based on a previous study, a MA was assumed to slow the recovery process by 2 days (18).

Data analysis

Data were summarised using descriptive statistics of mean and standard deviation, median, frequency and percentages. Chi-squared test was used to compare the socio-demographic and clinical variables between clinic attending and non-attending sample. Spearman's rank correlation was used to find the association between wait time and month of appointments. Independent t-test was used to compare between wait time between clinic attending and non-attending sample. Linear regression, Odds ratios and 95%CI analysis were to assess the determinants of MAs. Alpha level was set at $p < 0.05$. IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBM Corp. IBM was used to analyze the data.

Results

In this study, MAs comprised 1701 (52.5%) of all appointments while 1542 (47.5%) kept their appointments. The mean age of the people who missed their appointments was 42.0 ± 22.7years while the mean age of people who kept their appointments was 42.8 ± 23.3years. Rate of second, third, fourth, fifth and sixth follow-up appointments missed were 26.3%, 21.8%, 15.5%, 9.7% and 8.1%, respectively and the mean of the percentage of appointments missed was 22.0 ± 14.7.

Table 1 shows the comparison of socio-demographic and clinical variables between attending and non-attending sample based on Chi-square test. There was significant differences in rates of MAs based on age group (p = 0.001), sex (p = 0.001), location of patient's residence (0.004) and the source of referral (0.001) based on comparison between sample group that attended and those who did not attend their appointments. Rate of MAs was higher among female patients (50.2%), middle-aged adults (35-54years) (31.7%) and patients who were resident in far neighborhoods within the city (45.3%). MAs were also higher among patients who were referred by an Orthopaedic surgeon (32.8%) and those

Table 1 - Comparison of socio-demographic and clinical variables between attending and non-attending sample based on Chi-square test

Variable	Non-attending group	Attending group	X^2	p-value
Age				
1month-2years	83(4.9)	43(2.8)	10.811	0.001
2-11years	166(9.8)	184(11.9)		
11-<18years	82(4.8)	48(3.1)		
18-34years	291(17.1)	389(25.2)		
35-54years	539(31.7)	399(20.0)		
55-64years	234(13.8)	103(6.7)		
>65years	306(17.9)	376(24.4)		
Sex				
Female	854(50.2)	611(39.6)	3.657	0.001
Male	847(49.9)	931(60.4)		
Location of residence				
Within city(near)	230(13.5)	211(13.6)	1.081	0.004
Within city(far)	770(45.3)	614(39.8)		
Outside city	701(41.2)	717(46.6)		
Diagnosis type				
Orthopaedics	956(56.2)	816(52.9)	0.605	0.109
Neuro-medicine	451(26.5)	424(27.5)		
Paediatrics	283(16.6)	294(19.1)		
Metabolic	11(0.7)	8(0.5)		
Source of referral				
Orthopaedic surgeon	558(32.8)	418(27.1)	8.836	0.001
Physiotherapist	210(12.3)	156(10.1)		
GP	424(24.9)	321(20.8)		
Neurologist	314(18.5)	431(27.9)		
Otolaryngologist	4(0.2)	2(0.1)		
Nephrologist	4(0.2)	0(0)		
Paediatrician	120(7.1)	181(11.7)		
Gynaecologist	8(0.5)	7(0.5)		
Endocrinologist	4(0.2)	2(0.1)		
Plastic surgeon	31(1.8)	14(0.9)		
Occupational therapist	6(0.4)	1(0.1)		
Dermatologist	5(0.3)	3(0.2)		
Cardiologist	5(0.3)	2(0.1)		
Urologist	8(0.5)	4(0.2)		

who were referred by a general practitioner (24.9%). MAs were higher among patients with orthopaedic conditions (56.2%) and MAs were also higher in the month of March (11.3%) (Figure 1). Chi-square test revealed that age, sex, source of referral and location of patient's residence were significantly associated with MAs (p < 0.05).

Figure 2 shows wait times according to different conditions, location of patient's residence, and source of referral. Wait times ranged from 0 to 425 days with mean and median wait times of 9.6 ± 23.2 days and 4 days, respectively. The result indicated that
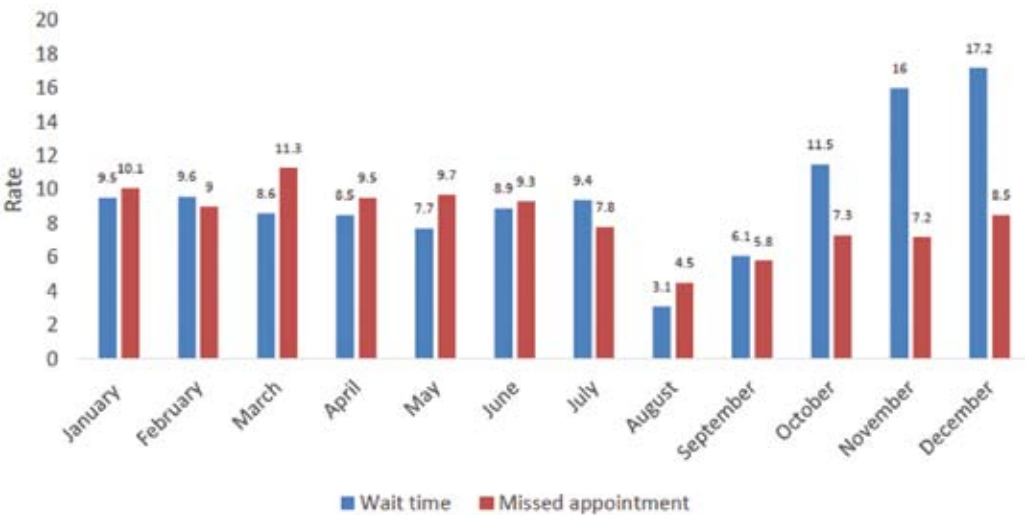
Figure 1 - Rate of missed appointments and wait times at the Obafemi Awolowo University Teaching Hospitals Complex per month

patients with paediatrics conditions had a longer wait time (10.4 ± 23.5 days). Also, patients who weren't residents in the same city as the clinic had a longer wait time than others (10.6 ± 19.6 days). Shorter wait time was observed among those referred by a Gynaecologist (3.4 ± 3.1 days) than those referred by a General Practitioner (11.2 ± 23.5 days). A longer wait time was observed in the month of December (17.2 ± 58.5days) (Figure 1). Spearman rank correlation showed no significant association between wait time and month of appointments (r = 0.025; p < 0.335).

Table 2 shows the estimated outpatient physiotherapy revenue, assets, liability, and efficiency ratio from 2009 to 2019. The mean estimated OPR from 2009 - 2019
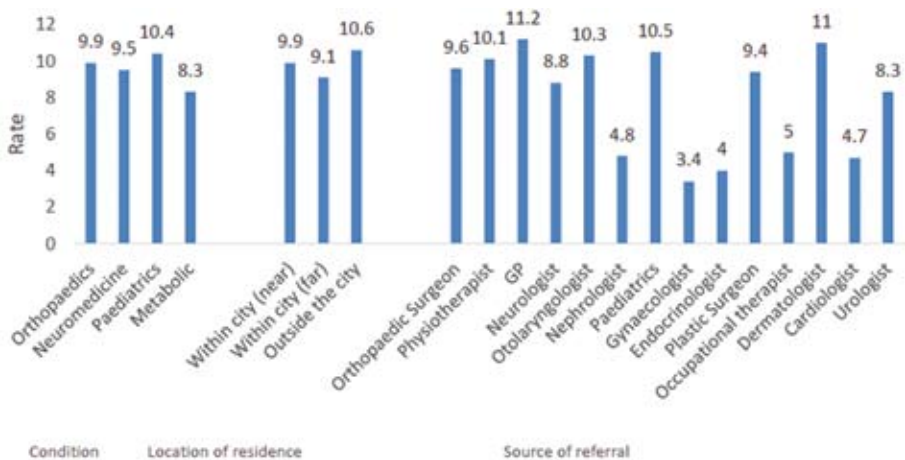

Figure 2 - Rate of wait times according to different condition, location of patient's residence and source of referral

Table 2 - Cost implication of missed appointments, OPR (Outpatient Physiotherapy Revenue) and efficiency ratio

Month	OPR (₦)	Liability (₦)	Assets (₦)	Efficiency ratio
January	8070.1±9535.4	1114.7±374.9	6955.4±9409.7	0.33±0.27
February	7507.5±5562.7	1111.9±316.9	6395.5±5500.5	0.35±0.34
March	8170.7±9065.9	1195.1±468.4	6975.6±9053.9	0.35±0.40
April	8550.3±10258.4	1167.8±574.3	7382.6±10264.5	0.22±0.67
May	7589.1±6157.6	1139.5±409.4	6449.6±6174.9	0.35±0.34
June	8945.2±8511.9	1116.4±321.9	7828.8±8451.4	0.29±0.32
July	7015.4±5848.2	1138.5±346.7	5876.9±5813.7	0.32±0.25
August	7934.2±9946.9	1144.7±422.8	6789.5±9945.6	0.37±0.36
September	7468.1±5407.5	1159.6±592.1	6308.5±5205.5	0.33±0.33
October	7481.1±5112.5	1122.6±329.6	6358.5±5052.5	0.32±0.30
November	9177.9±11211.7	1152.5±482.6	8025.4±10998.4	0.29±0.27
December	7250.0±5908.9	1154.4±436.8	6095.6±5076.3	0.37±0.34

was ₦7960.4 ± 8065.6 (if the per treatment schedule cost is ₦ 1000 (an equivalent of $2.31). If per treatment schedule cost is ₦1000, a 52.5% MA rate will result in ₦ 1143.6 ± 429.2 increase in total liability. The estimated mean asset was ₦ 6816.8 ± 7999.9 during the same period.

From the study, 52.5% MAs yielded a total efficiency ratio of 0.234. Consequently, MAs lowers efficiency by 76.6%. Of 3243 appointments, the 52.5% MAs observed in this study resulted in 1701 lost opportunities to treat patients. If an MA slows the patient's recovery process by 2 days, then a 52.5% MA rate could potentially impact patient recovery time by 3402 days

Table 3 presents determinants of number of MAs, when factors such as age, sex, wait time, location, diagnosis types, and source of referral were inputed using linear stepwise regression model and collinearity analysis of the variables, none of the variables were significant determinants of MAs (F = 1.728; p = 0.111) at a variability of 8% (i.e. R2 = 0.08). Table 4 shows the odds ratios and 95%CI of the occurrence of of MAs. Females, those who live far away from the city, and those with neurological/medical conditions were 1.68, 1.24, and 1.52 times more likely to MAs compared with males (OR = 1.68, CI = 1.44 – 1.96, p = < 0.001), those who live outside the city (OR =

Table 3 - Linear stepwise regression model and collinearity analysis of determinants of missed appointments

Variable	Regression coefficient (B)	S.E	Wald	Odds Ratio	95% CI for Odds Ratio		Collinearity Statistics	
					Lower	Upper	Tolerance	VIF
Constant	1.157	.069	16.675	<.001	1.021	1.293		
Sex	-.004	.024	-.177	.860	-.051	.042	.988	1.013
Location	.003	.017	.152	.879	-.031	.036	.996	1.004
Wait times	.001	.001	1.401	.161	.000	.002	.993	1.007
Disease type	.024	.019	1.289	.198	-.012	.060	.644	1.553
Source of referral	-.004	.006	-.663	.508	-.015	.007	.813	1.231
Age	-.001	.001	-1.678	.093	-.002	.000	.744	1.345

Table 4 - Odds ratios and 95%CI of the occurrence of of missed appointment

Variable	Regression coefficient (B)	S.E	Wald	Odds Ratio	95% CI for Odds Ratio		p-value
					Lower	Upper	
Constant	-0.210	0.087	5.830	0.810			0.016
Sex (ref: male)							
Female	0.520	0.078	44.571	1.682	1.444	1.959	<0.001
Location							
Outside the city (ref)			7.148				0.028
Within city (near)	0.024	0.120	0.040	1.024	0.810	1.295	0.842
Within city (far)	0.214	0.083	6.618	1.239	1.052	1.459	0.010
Diagnosis type							
Orthopaedic (ref)			13.550				0.004
Neuro-medicine	0.419	0.120	12.159	1.521	1.201	1.925	<0.001
Paediatrics	0.126	0.141	0.808	1.135	0.861	1.495	0.369
Metabolic	0.733	0.483	2.305	2.081	0.808	5.362	0.129
Source of referral							
Orthopaedic surgeon (ref)			79.104				<0.001
Physiotherapist	-0.063	0.133	0.222	0.939	0.724	1.219	0.638
General Practitioner	-0.299	0.115	6.723	0.742	0.592	0.930	0.010
Neurologist	-1.037	0.135	59.129	0.355	0.272	0.462	<0.001
Otorhinolaryngologist	0.216	0.883	0.060	1.241	0.220	7.002	0.806
Nephrologist	20.648	19917.406	0.000	9.276×10^8	0.000	.	0.999
Paediatrics	-0.681	0.182	13.983	0.506	0.354	0.723	<0.001
Gynaecologist	-0.518	0.513	1.019	0.595	0.218	1.629	0.313
Endocrinologist	0.170	0.941	0.033	1.185	0.187	7.497	0.857
Plastic Surgeon	0.531	0.345	2.371	1.700	0.865	3.342	0.124
Occupational therapy	0.355	1.237	0.082	1.426	0.126	16.098	0.774
Dermatologist	0.294	0.740	0.158	1.342	0.315	5.717	0.691
Cardiologist	-0.653	1.012	0.416	0.521	0.072	3.783	0.519
Urologist	0.266	0.631	0.177	1.305	0.379	4.496	0.674

1.24, CI = 1.05 – 1.46, p = 0.01), and have orthopaedic conditions (OR = 1.52, CI = 1.20 – 1.93, p = <0.001), respectively.

Discussion

From this study 52.5% of all appointments at the outpatient physiotherapy clinic were missed. The rate observed in the present study was lower than that (79.2%) observed in an earlier study by Mbada et al. (18) conducted in the same setting. While the earlier study investigated MAs over a 3-year period (from 2006 to 2008), the current study observed the same over a period of 10 years.

MAs are still a widespread problem around the world (10), and the factors leading to MAs in developed countries may defer significantly from those in Nigeria. Peculiar constraints in Nigeria - like most other resource-limited settings - include industrial

strike actions, poverty, religion and cultural beliefs about diseases and disabilities, difficulties in assessing healthcare facilities especially for those staying in rural areas, insecurities, and political crisis (18). Also, other studies have shown that barriers to appointment attendance were emotional issues, perceived disrespect of the patient's beliefs and time by the health care system, distrust, and lack of understanding of the scheduling system (4, 7, 19-21). In addition, transportation and childcare were logistical barriers that were believed by the study's respondents not to be insurmountable (7).

This study found the rates of missed first, second, third, fourth, and fifth follow-up appointments were 26.3%, 21.8%, 15.5%, 9.7%, and 8.1%, respectively. These rates of MAs were within MAs ranges reported in previous studies (2, 22). Vasey (23) observed that 14% of physiotherapy patients did not return for follow-up outpatient appointments. In another study, Worsfold et al. (24) reported that 41% of patients scheduled for physiotherapy treatment in the United States of America (USA) did not show up for either their 1st, 2nd, or subsequent appointment.

From this study, MAs were preponderant among female patients, middle-aged adults (35-54 years old), patients who were resident in the far neighborhood within the city, patients with orthopaedic conditions and appointments in the month of March. Our regression analysis buttresses this as sex, location of residence, diagnosis type and source of referral significantly predict MAs rate. Higher MAs in the month of March is probably associated with the religious activities such as Easter holiday that take place around this month. Also, it is adducible that the month of March coincides with the onset of rainy season in Nigeria and lasts to the end of July with a peak in June. Therainy season is followed by a short dry break in August known as the August break. Local weather has been reported to significantly

affect clinic visits (11, 13, 22). Similar to the findings of this study, previous studies have implicated a number of socio-demographic factors, such as the patient's age, sex and proximity of patient's residence to the clinic, and an appointment in the month of religion festivity, spring and fall for failed appointments in medical outpatient clinics (19).

This study also found a higher MAs rate among referrals from orthopaedic surgeons and General Practitioners (GPs). Healthcare provider-related factors including the source of referral, diagnosis type, the month of appointment and the wait time for appointments have been linked to MAs. For example, Yoon et al. (25), posit that healthcare provider-related factors such as the type of insurance that covers the patient, source of referral and the wait time for an appointment are associated with MAs. It is adducible that higher MAs resulting from Orthopaedic surgeons and GPs may be associated with views that patients referred from these, may not or see their conditions as critical or needing emergency attention compared to neurological and cardiac patients (26). Our regression analysis seems to confirm this as other sources of referrals especially referrals from neurologists and paeditricians were less likely to MAs compared with orthopaedic referral sources.

Thus, MAs represent a major challenge on physiotherapy services, and affects clinic revenue, as well as patients' related consiequences. This observation is in line with reports that MAs lead to suboptimal use of clinical and administrative staff, increases waiting times for other patients, can also cause problem of inequality as may deny other patient from having access to physiotherapy services and affects the continuity of care (27). In addition, patients who miss their appointments do not receive necessary and timely health services and may prevent or delay the provision of treatment, follow-up, or preventive care

to other patients (28). Formulating a good reminder system through text messages, phone calls and others will go a long way in this direction to reducing MAs. Studies have confirmed that forgetting the appointment is the one the major reasons for MAs (6, 11).

From the finding of this study, a mean wait time of approximately 9 days was observed for outpatient physiotherapy services. The wait time in this study was far longer than the target of 48 hours or less for health service providers in developed nations (29). A comparison of wait times in this study is nonetheless complicated by the scarcity of literature on wait times for physiotherapy services. However, the wait time observed in this study is shorter (9.6 ± 23.2 days) compared with that reported in an earlier study by Mbada et al. (18) where a wait time of 11.8 ± 4.7 days was observed. The reason for long wait time in physiotherapy clinic may be attributed to different factors which are mutually inclusive. These factors include the source of referral, condition of patients, location of patient's residence, the month of the year and the age of the patient. In this study, a longer wait time was found among paediatrics patients, patients not residing in the same location as the clinic and who were referred in the month of December, while a shorter wait time was found among those referred by Gynaecologists. Payment for treatment is a very strong factor for whether a patient will show up for a scheduled appointment or not. This is a reflection of the socioeconomic condition of most people in this environment. It is also important to know that most patients referred for outpatient physiotherapy services have some disability and levels of dependence. Therefore, keeping up with scheduled appointments for the dependent patients is largely hinged on the availability of a caregiver. In this study, the wait time was longer in the month of December and it was shorter in the month of August. The longer wait time in the month of December might be associated with

the festivities in the month. Also, there is anecdotal evidence to suggest that patients in this context do not want to visit hospitals in the months of December and early January. However, the reason for the shorter wait time in the month of August however may just be by chance.

In this study, the mean estimated revenue was ₦7960.4 ± 8065.6. If per treatment schedule cost was ₦1000, therefore, a 52.5% MA will result in ₦1143.6 ± 429.2 mean liability. Thus, the mean assets during that period was ₦6816.8. This implies that not all the clinic revenue was an asset to the clinic. In this study, costing was estimated from financial and social perspectives. The financial cost of missing an appointment has been described as the providers' loss of income because of a lower income that can be achievable without the incidence of MAs while the social cost is described as the unused or misused personnel time, equipment, and ward capacity (8). In a healthcare system (as in this study), where the mode of payment is prepayment or upfront payment, the provider incurs both liability in credited income and loss in revenue generation to MAs that cannot be replaced by other patients on the waiting list or walk-in patients seeking same daycare, this in turn reduces the asset and increase the liability. The increase in liability and the reduction in assets can also be attributed to the fact that there are no penalties or incentives for missing an appointment in the outpatient physiotherapy department where this study was carried out. The limited assets in turn will affect the total revenue generated from service to the clinic management. Prepayment by the patients also constitutes a direct medical cost. Direct medical costs are defined as the value of healthcare resources that are used up in the prevention, diagnosis, and treatment of diseases, as well as the provision of intervention (30).

The social cost is when the liability affects the efficiency ratio which in turn results in

lost benefits to the patient. From the result of this study, a 52.5% MA rate yielded an efficiency ratio of 0.23. Consequently, the efficiency ratio was lowered by 76.6%. The lowered efficiency is an indirect cost on the side of the employer in that it leads to a loss of productivity. From the result of this study, MAs were estimated to impact patient time potentially negatively by 3402 days (If an MA slows a recovery process by 2 days). The outcome of this study is similar to previous studies that revealed that MAs lead to a gamut of ineffectiveness, loss of resources, disruption of the continuity of care, scheduling overlap and increase costs (31, 32). This study has some strength and limitation that is worthy of mention. The notable strength of our study is the large data covering 10 years period assessing MAs. As with many retrospective studies, there were missing data which could compromise the results.

Conclusions

Missed appointments are significantly influenced by gender, location of patient's residence, type of diagnosis, and source of referral. MAs pose a significant challenge and incur losses in terms of cost, efficiency, and patient outcome. Thus, an innovative reminder system may help reduce patients' non-attendance to physiotherapy and its consequences.

Riassunto

Appuntamenti mancati con il fisioterapista e le loro conseguenze su costi, efficienza ed esiti nel paziente

Premessa. Gli appuntamenti mancati rappresentano una sfida significativa per la gestione efficiente dei reparti di fisioterapia ed hanno implicazioni sui costi. In questo studio sono stati valutati il tempo di attesa, il modello, i predittori e l'impatto degli appuntamenti mancati su costi, efficienza e tempi di recupero tra i pazienti nigeriani sottoposti a fisioterapia.

Metodi. Nell'ambito di questo studio retrospettivo è stato fissato un totale di 3.243 appuntamenti di fisioterapia tra il 2009 e il 2019 presso una clinica ambulatoriale di fisioterapia in Nigeria. Sono stati raccolti dati su mancati appuntamenti (1701, il 52,5%), costo del trattamento e dati socio-demografici. La perdita totale di entrate dovuta agli appuntamenti mancati è stata calcolata come prodotto del totale dei mancati appuntamenti ed il costo del trattamento; è stato inoltre stimato il tempo di recupero.

Risultati. Gli appuntamenti mancati erano 1701 (il 52,5% di tutti gli appuntamenti) e il tempo medio di attesa per il primo appuntamento era di 99,6 ± 23,2 giorni. La percentuale di mancati appuntamenti era più elevata tra le donne (50,2%), i pazienti che non erano residenti nella stessa località della clinica (45,3%), i pazienti con patologie ortopediche (56,2%) ed i pazienti indirizzati da un chirurgo ortopedico (32,8%). Le donne, coloro che vivono lontano dalla città e quelli con patologie neurologiche/mediche avevano una probabilità 1,68, 1,24 e 1,52 volte maggiore di avere mancati appuntamenti rispetto ai maschi (OR = 1,68, CI = 1,44 – 1,96, p = <0,001), a coloro che vivono fuori città (OR = 1,24, CI = 1,05 – 1,46, p = 0,01) e hanno patologie ortopediche (OR = 1,52, CI = 1,20 – 1,93, p = <0,001), rispettivamente. Utilizzando un costo per programma di trattamento pari a N1000 (un equivalente di $ 2,31), un tasso di mancati appuntamenti del 52,5% ha prodotto un'efficienza inferiore del 76,6% con un rapporto di efficienza di 0,23. Inoltre, un tasso di mancati appuntamenti del 52,5% potrebbe avere un impatto sul tempo di recupero dei pazienti di 3402 giorni se i mancati appuntamenti rallentano il processo di recupero del paziente di 2 giorni.

Conclusioni. I mancati appuntamenti per il trattamento fisioterapico rappresentano una sfida significativa in termini di costi, efficienza e tempi di recupero del paziente. Pertanto, un innovativo sistema di promemoria può aiutare a ridurre la mancata partecipazione dei pazienti alla fisioterapia e le sue conseguenze.

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