

Medication Adherence and Health Insurance/health Benefit in Adult Diabetics in Kingston, Jamaica

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ABSTRACT

Objective: To determine the association between health insurance/health benefit and medication adherence amongst adult diabetic patients in Kingston, Jamaica.

Methods: This was a cross-sectional study. The target population was diabetics who attended the diabetic outpatient clinics in health centres in Kingston. Two health centres were selectively chosen in Kingston. All diabetic patients attending the diabetic clinics and over the age of 18 years were conveniently sampled. The sample size was 260. An interviewer-administered questionnaire was utilized which assessed health insurance/health benefit. Adherence was measured by patients' self-reports of medication usage in the previous week. The Chi-squared test was used to determine the significance of associations.

Results: Sample population was 76% female and 24% male. Type 2 diabetics comprised 93.8%. More than 95% of patients were over the age of 40 years. Approximately 32% of participants were employed. Approximately 75% of patients had health insurance/health benefit. Among those who had health insurance or health benefit, 71.5% were adherent and 28.5% were non-adherent. This difference was statistically significant ($\chi^2 = 6.553$, $p = 0.01$). Prevalence of medication non-adherence was 33%.

Conclusions: In Kingston, diabetic patients who are adherent are more likely to have health insurance/health benefit ($p = 0.01$).

Keywords: Diabetes, health insurance, medication adherence

El cumplimiento con la medicación y su relación con los seguros y beneficios de salud para los adultos diabéticos en Kingston, Jamaica

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RESUMEN

Objetivos: Determinar la asociación de los seguros y beneficios de salud con el cumplimiento de la medicación entre los adultos diabéticos en Kingston, Jamaica.

Métodos: Este fue un estudio transversal. La población objeto del estudio estuvo constituida por los diabéticos que asistían a las clínicas ambulatorias para la diabetes en los centros de salud de Kingston. Dos centros de salud fueron selectivamente elegidos en Kingston. Todos los pacientes diabéticos que asistían a las clínicas para la diabetes, y que eran mayores de 18 años fueron muestreados convenientemente. El tamaño de la muestra fue de 260. Un cuestionario administrado por el entrevistador fue utilizado para evaluar los seguros y beneficios de salud. El cumplimiento con la medicación se midió mediante autoreportes de los mismos pacientes sobre el uso de los fármacos la semana anterior. La prueba de ji cuadrado se utilizó para determinar la importancia de las asociaciones.

Resultados: La muestra poblacional estuvo formada por 76% de mujeres y 24% de hombres. Los diabéticos de tipo 2 comprendían el 93.8%. Más del 95% de los pacientes eran mayores de 40 años. Se utilizaron aproximadamente el 32% de los participantes. Aproximadamente el 75% de

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los pacientes tenían seguro médico y beneficios de salud. Entre los que tenían seguro de salud o beneficios de salud, el 71.5% eran cumplidores y el 28.5% no eran cumplidores. Esta diferencia fue estadísticamente significativa ($\chi^2 = 6.553, p = 0.01$). La prevalencia del incumplimiento con la medicación fue de 33%.

Conclusiones: *En Kingston, los pacientes diabéticos que son cumplidores son más propensos a tener beneficios de seguro médico y de salud ($p = 0.01$).*

Palabras claves: diabetes, seguro de salud, cumplimiento con la medicación

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INTRODUCTION

Adherence is assessed in chronic disorders as “the extent to which a person’s behaviour (taking medication, following diet, and/or executing lifestyle changes) corresponds with agreed recommendations from a healthcare provider” (1). Studies show that many diabetic patients take less than the prescribed amount of medication (2).

The literature has shown many barriers to medication adherence in chronic diseases. Barriers that have been identified in the United States (US) Health System include patient cost sharing, patient access to medications and drug complexity regimen (3). Some barriers that have been identified in other countries include social support (4), female gender (5), healthcare system/team (1), education level (6) and the presence of other chronic diseases (1).

Several studies have been done on the non-adherence of different diabetic populations in Jamaica. One such study was done by Swaby *et al* in 2001 (7). The medical records of 1091 chronic disease patients (from HOPE Worldwide Jamaica, a mobile nongovernmental organization health service to rural communities) were reviewed between January 1999 and December 1999 (7). This study showed that 30% of diabetic patients were non-compliant with taking medications (7). In 2003, another study was done by Duff *et al* on a random sample of 133 patients attending the Diabetes Specialist Clinic at the University Hospital of the West Indies, Kingston. The relevant result was that only 45% of patients reported full compliance with medication (8).

This paper assesses the significance of health insurance/health benefits to medication adherence in diabetics in Kingston, Jamaica. In addition, the prevalence of medication non-adherence in diabetics was also identified.

SUBJECTS AND METHODS

This was a cross-sectional study. Two health centres – Edna Manley and Harbour View – were purposively selected. Using a prevalence of 30% for non-adherence and applying a 95% confidence level, the sample size required was 260 patients.

The number of participants chosen from each health centre was based on the ratio of populations being served at both health centres. This ratio is 0.51 for Harbour View and 0.49 for Edna Manley. Consequently, out of 260 participants, 133 participants were chosen from Harbour View and 127 participants were chosen from Edna Manley.

Convenience sampling of all diabetics (Type I and Type II) 18 years and older who registered each day at the diabetic outpatient clinic was accomplished over a two-month period in 2010. Interviews were conducted with the use of a questionnaire which assessed health insurance and health benefits.

Adherence was measured by patients’ self-reports of how they took their medication in the last week before the interview. Participants were asked to recall doses of medication missed. This information was then used to calculate the percentage of medication. Non-adherence was interpreted as those who took less than 80% of their medication.

RESULTS

Approximately 75% of participants fell into three age groups (50 to 59 years, 60 to 69 years and 70 to 79 years). Less than 5% were under the age of 40 years (Figure). Seventy-six per cent of participants were female and 24% were male.

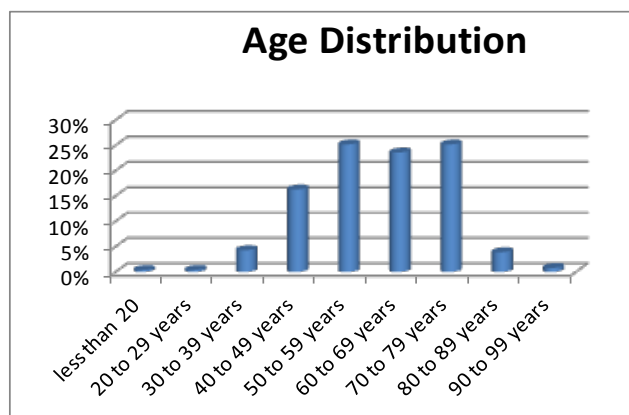


Figure: Age distribution of the sample population.

The sample consisted of 46.1% married persons and 41.1% single persons. There was no formal school education in 3.5% of the participants while 64.3% had up to primary school level education and 31% had up to secondary school level education. By employment status, 53.9% were unemployed, 31.8% employed and 14.3% were pensioners. The prevalence of medication non-adherence in this study was 33%. After applying Chi-squared tests, no statistically significant relationships between adherence level and employment status, gender, age, marital status or educational level were found.

Approximately 75% of patients had health insurance/health benefit. Among those who had health insurance or health benefit, 71.5% were adherent and 28.5% were non-adherent. In other words, 79.6% of adherent patients and 64.6% of non-adherent patients had health insurance/health benefit (Table). The difference was statistically significant ($\chi^2 = 6.553$, $p = 0.01$). Non-adherent patients were less likely to have health insurance/health benefit than adherent patients.

Table: Health insurance/health benefit by adherence level, % (n)

	Presence of health insurance/health benefit		
	Yes	No	Total
Adherent	79.6 (133)	20.4 (34)	100 (167)
Non-adherent	64.6 (53)	35.4 (29)	100 (82)

$\chi^2 = 6.553$, $df = 1$, $p = 0.01$

Among patients with health insurance/health benefit, 47.4% had National Health Fund (NHF) alone, 2.1% had Jamaica Drugs for the Elderly Programme (JADEP) alone and 32.2% had both JADEP and NHF. Among participants who did not have any health insurance or health benefit, 68.3% were aware of NHF and 58.7% were aware of JADEP.

DISCUSSION

This study shows there is a significant association between health insurance/health benefit and adherence level. Adherent patients generally have health insurance/health benefit more than non-adherent patients ($p = 0.01$). Other studies show patients increase their drug usage by 20% and improve adherence when they have drug insurance coverage (8).

This trend has been documented in the United States of America (USA). Medicare patients who had their drug expenditure capped (1000.00 USD per annum) were more non-adherent than patients whose drug expenditure was uncapped (9, 10). In addition, controlling for health status, the mortality rate was 22% higher for capped patients than for uncapped patients (9, 10).

In this study, approximately 25% of participants did not have any health insurance/health benefit. More than half of

these participants were aware of NHF and JADEP but yet did not have them. This may be attributed to the application process which requires patients to present their birth certificate. Many of these patients cannot afford or do not have this national identification. Perhaps subsidizing cost for birth certificates and increased awareness of these programmes by patients may increase their access to these health benefits.

The prevalence of medication non-adherence in this study is 33%. This is similar to the findings of Swaby (7) *et al* but not with Duff *et al* (8). In conclusion, this study shows that adherent patients are more likely to have health insurance/health benefit over non-adherent patients.

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