Yessy Fitriani, Semukasa Philimon,
Kartika Setyaningsih Sunardi, Karlinda,
Desi Metriana Erza, Apri Yulda,
Tiara Nurcihikita, Vivi Yosefri Yanti

The Relationship Between the Loss of Household Income and Socioeconomic Variables in the Second COVID-19 Lockdown

YESSY FITRIANI [1] SEMUKASA PHILIMON[2], KARTIKA SETYANINGSIH SUNARDI[3]
KARLINDA[4] DESI METRIANA ERZA[5] APRI YULDA[6] TIARA NURCIHIKITA[7]
VIVI YOSEFRI YANTI[8]

[1] Department of Medical Informatics, University of Muhammadiyah Muara Bungo
Jl. Rang Kayo Hitam, Cadika, Rimbo Tengah, Bungo Regency, Jambi
INDONESIA

[2] Department of Health Education and Behavioral Science, Universitas Indonesia
Pondok Cina, Beji, Depok City, West Java
INDONESIA

[3] Depatement of Hospital Administration Permata Indonesia Health Polytechnic
Jl. Pandean II, Sleman Regency, Yogyakarta, INDONESIA

[4] Department of Health Administration, University of Muhammadiyah Muara Bungo
Jl. Rang Kayo Hitam, Cadika, Rimbo Tengah, Bungo Regency, Jambi
INDONESIA

[5] Department of Health Administration, University of Muhammadiyah Muara Bungo
Jl. Rang Kayo Hitam, Cadika, Rimbo Tengah, Bungo Regency, Jambi
INDONESIA

[6] Department of Medical Informatics, University of Muhammadiyah Muara Bungo
Jl. Rang Kayo Hitam, Cadika, Rimbo Tengah, Bungo Regency, Jambi
INDONESIA

[7] Department of Health Administration, University of Muhammadiyah Muara Bungo
Jl. Rang Kayo Hitam, Cadika, Rimbo Tengah, Bungo Regency, Jambi
INDONESIA

[8] Department of Digital Bussiness, University of Muhammadiyah Muara Bungo
Jl. Rang Kayo Hitam, Cadika, Rimbo Tengah, Bungo Regency, Jambi
INDONESIA

Abstract: - Although Covid-19 started in Wuhan, China, on January 30th 2020 it was declared a public health emergency by the World Health Organization (WHO). The issue was no longer for China alone. Instead, every country was called upon to take urgent and aggressive measures against the spread of the deadly virus. This paper aims to examine the relationship between the loss of household income and socioeconomic variables. This was a quantitative study with a cross-sectional approach. The data of this study were collected from a representative sample of 210 households from 21 villages in Wakiso District. This paper focuses on the impact of income loss on a range of social-economic indicators. The results showed that two variables had strong effects on income reduction: (1) education, with a P value of 0.042 OR 2.124 and (2) medical insurance ownership, with a P value of 0.012 OR 0.357. Thus, the increase in income was associated with better health. We suggest that the socioeconomically disadvantaged group requires additional support to strengthen their resilience to survive amid the coronavirus global pandemic.

Key-Words: - household, income, social, economic, covid-19.

Yessy Fitriani, Semukasa Philimon,
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1. Introduction

Although the coronavirus disease of 2019 (Covid-19) started in Wuhan, China, by January 30th 2020, it was declared a public health emergency by the World Health Organization, [1]. China was no longer the only nation faced with this problem as all nations were urged to act swiftly and forcefully to stop the spread of this deadly virus. Many nations implemented preventive measures to slow the spread of the coronavirus, such as banning public meetings; implementing travel bans to the entire nation; closing places of worship, schools, and colleges; as well as complete lockdowns, [2], [3]. However, Covid-19 cases increased rapidly. This virus spread over all continents of the world, with new cases being reported every week. Reports showed that Uganda received the first case of Covid–19 on March 21st, 2020 and since, then the virus has affected the social, economic and political well-being of people, rendering them helpless, [4], [5] Despite continued efforts globally to bring Covid-19 on its knees, people's obedience and collaboration on the preventive measures is essential since efforts aimed at combating the virus are affected by people's awareness and preparedness towards Covid-19. Nonetheless, knowledge and attitudes toward infectious diseases are usually related to the panic among populations and this, in most cases, complicates the preventive measures put in place to curb the spread of diseases, [6].

The rapid growth of small towns has affected some measures put in place to curb the spread of Covid-19. The majority of Ugandans have found physical distancing challenging due to the high population in town centers. Although the World Health Organization recommends the frequent washing of hands using soap and putting on face masks, the majority of Ugandans are finding these preventive measures difficult to maintain since many live in slums or informal houses. Such residences are characterized by unhygienic conditions plus a lack of proper access to clean water, [7]. However, research has shown that since 2018, Uganda has been working under a health care crisis which was mainly caused by disease outbreaks from neighboring countries like Congo. This forced Uganda to mobilize border surveillance teams to carry out screening on most of the country's border points and major airports. This was aimed at battling past diseases like measles, yellow fever, plus Crimean Congo hemorrhagic fever, [8]. But when it came to Covid-19, these methods did not work.

The border surveillance teams were overworked and as a result, the government of Uganda resorted to closing entire borders, including the airport, [5]. Some research has shown that lockdowns have worked very well to the extent that the pandemic has gradually reduced and many are suggesting that it should be considered as an effective public health measure, [9]. However, other researchers argue differently, since applying lockdown as a measure to curb the spread of Covid-19 is irrefutably complex. This is because this measure has extensive social, political and economic effects, [10]. Despite the Covid-19 pandemic affecting the social, political, and economic way of life of many people, the lockdowns which were imposed on Ugandans left many people unemployed while others closed their businesses. Restrictions were put on both local and international transportation, tourism, plus industrial inputs bringing the economy of Uganda to its knees. Besides that, disadvantaged communities like those who stay in slums faced severe income loss, teenage pregnancies, and child labor, [3] yet refugees staying in small urban centers, experienced accelerated rapid income insecurity and increased gender violence due to the mandatory lockdown, [4], [11].

Several studies have shown that due to Covid-19 lockdowns, many families started sleeping hungry due to food prices which were increasing daily, yet their incomes did not increase. Those who depended on daily incomes were greatly affected, [12]. However, it's worth noting that the majority of the people living in Uganda are youth whose earnings are just increasing as per their age. Yet studies have shown that there is a serious relationship between age and income, demonstrating that those with higher age brackets tend to be richer than those with lower age brackets, [13], [14]. Therefore, the two-year lockdown rendered Ugandan youth unproductive, hence reducing their incomes and exposing them to poverty and health inequalities. In addition, several models were developed to capture the impact of Covid-19 on social and economic wellbeing and results showed that the majority of households, especially those in the continents of Africa and South Asia, would be heavily affected, leading them to poverty and food insecurity, [15].

Although many governments believed that lockdowns would reduce Covid-19 cases, the impacts of these lockdowns on people's economic welfare were not carefully studied, for example how people would complete months of lockdown with their income reducing day per day. For the case of people with disabilities, it was worse yet. Studies have shown that there is a strong relationship between people with disabilities and poor health status. There are high chances of them reporting damaging

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behaviours like smoking, drinking, obesity, and physical inactivity. In addition, people with disabilities still face discrimination, even in some workplaces. Hence, there are higher chances for them to lose their businesses and employment posts, leading to a reduction in incomes, [16], [17].

The majority of Ugandans are farmers and, on several occasions, Uganda is referred to as a food basket for many East African countries. But during the Covid-19 pandemic, many Ugandans could not afford adequate health nutrient diets. This was so because Covid-19 reduced people's incomes worldwide, [18]. Furthermore, despite studies showing that a huge number of people went out of the poverty zone to middle-class status in developing countries, the extent to which education levels influence income increase or reduction needs to be examined, [19], [20]. Besides that, several health promotional interventions which were aimed at curbing the spread of the Covid-19 virus turned into stigma to the extent that those who were sick got scared of even reporting to several healthcare centers. Yet research is showing that stigma of any kind undermines efforts determined to stop the spread of diseases, [21].

However, in most developing countries, women were less privileged than men, [22]. Thus, women leading households and businesses faced great danger during the Covid-19 pandemic and had their incomes reduced. On the contrary, other research showed that households with married status have higher incomes compared to those with single status, [23], [24]. But during the lockdown in Uganda, the case was different, since the greater the number of dependents the family had the more venerable that family would be. Although the government of Uganda planned a support strategy to help those who lost their jobs and businesses due to the lockdown, the majority of Ugandans never got their jobs back and many small- and large-scale businesses ended up closing. This was not only witnessed in Uganda, but many countries witness relevant loss of work and income reduction, [25], due to the Covid-19 pandemic.

2. Problem Formulation

The objective of this study was to investigate the relationship between income loss and socio-economic factors (loss of job, closure of business, ability to afford food prices, ability to have a balanced diet, knowledge of the reason why the government implemented the lockdown, age, education level, household size, gender, marital status, employment status, medical insurance, whether respondents directly or indirectly contacted patients suffering from Covid-19, whether or not respondents faced discrimination by other people when suffering from Covid-19, and the best ways of preventing Covid-19). Furthermore, the authors wanted to investigate which factors had a direct influence on income reduction.

3. Methods

The researchers conducted a cross-sectional study which started on June 20th and ended on July 30th, 2021 during the second lockdown. The researchers selected 210 households from 21 villages in Wakiso district. From these 21 villages, the researchers chose 10 households per village. The researchers focused on villages which were located in small towns since they were more likely to have contact with Covid-19. The researchers chose respondents who were household heads who were aged at least 18 years old and were willing to participate in the survey. Household heads who did not meet the above criteria were not eligible to participate in this study. Given that Covid-19 is new with few studies being done so far, the researchers used a standardized structure, i.e., the pre-coded questionnaire. The questionnaire was validated and tested before use. The researchers carried out a pilot survey of 20 individuals in order to check whether or not the tool had issues.

All variables were analyzed and presented through frequencies, proportions, means, and standard deviations. A chi-square test was performed on categorical variables to examine the relationship between reduction in household income and socio-economic factors (loss of job, closure of business, ability to afford food prices, ability to have a balanced diet, knowledge on the reason why the government implemented the lockdown, age, education level, household size, gender, marital status, employment status, medical insurance, whether respondents directly or indirectly contacted patients suffering from Covid-19, whether or not respondents faced discrimination by other people when suffering from Covid-19, and the best ways of preventing Covid-19). Most continuous variables were broken down into categories which were Yes and No as well as High and Low. The data were analyzed using SPSS and the univariate, bivariate, and multivariate were reported at a significance of 95% confidence interval.

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4. Results

Table 1. The Distribution of Respondent's Characteristics

Categories	Frequency	Percentages (%)
Gender		
Male	113	53.8
Female	97	46.2
Age		
Younger ones	129	61.4
Older ones	81	38.6
Education		
Low level	74	35.2
High level	136	64.8
Household Size		
Low	76	36.2
High	134	63.8
Marital Status		
Single	93	44.3
Married	117	55.7
Employment Status		
No	88	41.9
Yes	122	58.1
Do you have medical insurance?		
No	159	75.7
Yes	51	24.3
Have you directly or indirectly contacted patients suffering from Covid-19?		
No	145	69
Yes	65	31
Do you feel that you would be discriminated by other people if you contracted Covid-19?		
No	76	36.2
Yes	134	63.8
Did you buy masks during the Covid-19 outbreak?		
No	59	28.1
Yes	151	71.9
Was there anything inconvenient about the mask you brought?		
No	103	49
Yes	107	51
Did you find any difficulties in putting on the mask?		
No	92	43.8
Yes	118	56.2
Do you know the basic ways in controlling Covid-19		
No	79	37.6
Yes	131	62.4
Do you usually keep social distance to prevent yourself from contracting Covid-19?		
No	66	31.4
Yes	144	68.6
Do you usually wash your hands with soap/use hand sanitizer to prevent yourself from contracting Covid-19?		
No	37	17.6
Yes	173	82.4
Do you usually wear a face mask to prevent yourself from contracting Covid-19?		
No	52	24.8
yes	158	75.2
Would you like to receive additional information about Covid-19?		
No	95	45.2
Yes	115	54.8
Loss of a job		
No	124	59
Yes	86	41
Reduction in income		
No	65	31
Yes	145	69
Closure of business		
No	135	64.3
Yes	75	35.7
Smoking or chewing tobacco		
No	168	80
Yes	42	20
Using alcohol such as *waragi* or beer		
No	142	67.6
Yes	68	32.4
Using substances such as *khat* or marijuana		
No	167	79.5
Yes	43	20.5
Undergoing physical activity such as jogging or other sports		
No	103	49
Yes	107	51
Sedentary lifestyle such as excessive watching of TV		
No	110	52.4
Yes	100	47.6
Binge eating		
No	131	62.4
Yes	76	36.2
Whether or not respondents can afford the price of food		
No	87	41.4
Yes	123	58.6
Whether or not respondents have a diverse/balanced diet		
No	83	39.5
Yes	127	60.5
Whether or not respondents afford to travel to a food market		
No	83	39.5
Yes	127	60.5

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Whether or not respondents can afford fuel for cooking food

No	90	42.9
Yes	120	57.1

Whether or not respondents had access to health care (HIV/STI testing)

No	122	58.1
Yes	88	41.9

Whether or not respondents know the reason why the government put up the lockdown

No	78	37.1
Yes	132	62.9

Table 1 represents sample characteristics. The majority of participants were men (53.8%) and 61.4% of participants were aged below the mean of 36 years. In total, 64.8% of respondents had basic or secondary education, 63.8% of the sample had a high household size, and 55.7% were married. Most of the participants were employed (58.1%) but 75.7% of participants lacked medical insurance. Furthermore, the majority of respondents did not have direct or indirect contact with patients suffering from Covid-19. In addition to that, 63.8% out of the 100 respondents felt they would be discriminated against by other people if they contracted Covid-19. But 71.9% bought masks during the Covid-19 outbreak and 51% admitted that there was nothing wrong with the mask they bought. Yet according to the analysis, 56.2% found difficulties in putting on their masks.

However, the majority of respondents (62.4%) had basic knowledge of controlling Covid-19 and 68.6% reported keeping social distance in order to prevent themselves from contracting Covid-19. Almost all participants washed their hands with soap or sanitizer to prevent Covid-19 (82.4%) and 75.2% usually wear a face mask. Over half of the participants were interested in receiving additional information about Covid-19 (54.8%). Overall, 59% reported job losses while 69% had their income reduced. Furthermore, 75% of participants experienced business closure.

Then, from the research, it was shown that 80% never smoked or used tobacco and a huge number of participants 67.6% never used alcohol. The majority of participants did not use substances such as *khat* or marijuana 79.5% and half of the respondents carry out physical activities (51%). However, 52.4% had a sedentary lifestyle such as watching TV excessively. In addition, 62.4% practiced binge eating while 58.6% could afford the food prices. The majority of participants could afford a balanced diet (60.5%) and 60.5% could afford to travel to a food market. Almost half of the respondents (57.1%) could afford fuel for cooking food yet 58.1% had access to health care.

The majority of participants had an idea as to why the government implemented the lockdown (62.9%).

4.1 Bivariate Analysis

Table 2. The Relationship Between the Reduction in Income and Several Variables (N=210)

Variable	P value	(95%C. I)
Loss of job	0..004	1.349 - 4.872
Closure of business	0..010	1.210 - 4.575
Ability to afford food prices	0.006	1.261 - 4.153
Ability to have a balanced diet	0..004	1.297 - 4.287
Knowledge of the reason why the government put up the lockdown	0..034	1.045 - 3.458
Age	0..069	0.318 - 1.047
Education	0..057	0.980 - 3.270
Household size	0..636	0.466 - 1.594
Gender	0..759	0.609 - 1.973
Marital status	0..506	0.678 - 2.196
Employment status	0.029	0.271 - 0.935
Medical insurance ownership	0..001	0.181 - 0.673
Whether or not respondents directly or indirectly contacted patients suffering from Covid-19	0..011	0.244 - 0.839
Whether or not respondents feel that they would be discriminated against by other people if they contracted Covid-19	0..020	1.112 - 3.676
Whether or not respondents knew the best ways of controlling Covid-19	0.020	1.112 - 3.676

After conducting the chi-square test, it was determined that there was a statistically significant relationship between the loss of a job and the reduction in income, with a P value of 0.004 (1.349 – 4.872 Cl 95%). In addition to that, the closure of business had a statistically significant relationship with the reduction in income, with a P value of 0.010 (1.210 – 4.575 Cl 95%). There was a strong relationship between people's ability to afford food prices and the reduction in income, with a P value of 0.006 (1.261 – 4.153 Cl 95%). The ability to have a balanced diet was associated with a reduction in income as the P value was 0.004 (1.297 – 4.287 Cl

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95%). Then, knowledge of the reason why the government put up a lockdown was associated with a reduction in income, with a P value of 0.034 (1.045 - 3.458 Cl% 95).

But there was no statistically significant relationship between the age of respondents and the reduction in income, with a P value of 0.069 (0.318 - 1.047 Cl 95%). Furthermore, there was no statistically significant relationship between education and the reduction in income, with a P value of 0.057 (0.980 - 3.270 Cl 95%). Then, no statistically significant relationship was observed between household size and the reduction in income, with a P value of 0.636 (0.466 - 1.594 Cl 95%). Similarly, no statistically significant relationship was observed between the gender of respondents and the reduction in income, with a P value of 0.759 (0.609 - 1.973 Cl 95%). Marital status had no statistically significant relationship with a reduction in income. The P value of this was 0.506 (0.678 - 2.196 Cl 95%). Employment status had a P value of 0.029 (0.271 - 0.935 Cl 95%), having medical insurance had a P value of 0.001 (0.181 - 0.673 Cl95%), and having directly or indirectly contacted patients suffering from Covid-19 had a P value of 0.011 (0.244 - 0.839 Cl 95%). Whether or not respondents feel they would be discriminated by other people if they contracted Covid-19 had a P value of 0.020 (1.112 - 3.676 Cl 95%). Then, whether or not patients knew the best ways of controlling Covid-19 had a P value of 0.020 (1.112 - 3.676 Cl 95%). These points had a statistically significant relationship with a reduction in income.

4.2 Multivariate Analysis

The variables whose p-value was greater than 0.25 did not continue in the multivariate analysis. However, variables whose p-value was less than 0.25 were analyzed using the multivariate analysis to see which variate influenced income reduction.

Table 3. Results of the Multivariate Analysis of Variables with Reduction in Income N=210

Variable	P value	OR	(95%C.I)
Loss of job	0.119	1.802	0.859 – 3.777
Closure of business	0.287	1.513	0.705 – 3.245
Ability to afford food prices	0.330	1.483	0.671 – 3.280
Ability to have a balanced diet	0.344	1.464	0.665 – 3.222
Knowledge of the reason why the government put up the lockdown	0.061	1.960	0.969 – 3.967
Age	0.222	0.654	0.330 – 1.294
Education	0.042	2.124	1.028 – 4.385
Employment status	0.525	0.788	0.377 – 1.644
Medical insurance ownership	0.012	0.357	0.159 – 0.798
Whether or not respondents directly or indirectly contacted patients suffering from Covid-19	0.409	0.732	0.348 – 1.536
Whether or not respondents feel that they would be discriminated against by other people if they contracted Covid-19	0.762	1.118	0.544 – 2.294
Whether or not respondents knew the best ways of controlling Covid-19	0.143	1.666	0.842 – 3.299

The authors carried out a multivariate analysis to determine which variables had a strong effect on the reduction in income. Out of the twelve variables that were analyzed in multivariate analysis, ten did not have an effect on reduction in income and these were: knowledge of the reason why the government put up the lockdown, with a P value of 0.061 and OR 1.96; loss of job, with a P value of 0.119 and OR 1.802; closure of business with a P value of 0.287 OR 1.513; the ability to afford food prices, with a P value of 0.330 OR 1.483; the ability to have a balanced diet, with a P value of 0.344 OR 1.464; age, with a P value of 0.222 OR 0.654; employment status, with a P value of 0.525 OR 0.788; whether or not respondents directly or indirectly contacted patients suffering from Covid-19, with a P value of 0.409 OR 0.732; whether or not respondents feel that they would be discriminated by other people if they contracted Covid-19, with a P value of 0.762 OR 1.118; and whether or not respondents knew the best ways of controlling Covid-19, with a P value of 0.143 OR 1.666. Meanwhile, the two variables which had a strong effect on the reduction in income were education, with a P value of 0.042 OR 2.124 and medical insurance ownership with a P value of 0.012 OR 0.357.

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5. Discussion

The results of the univariate analysis found that less than half of the respondents (41%) lost their jobs. The results of this study are in line with the research of Putra et al. in 2020, where in Indonesia, 4% of the population had lost their jobs, [26]. In this study, the authors found a statistically significant relationship between loss of job and reduction in income, with a P value of 0.004 (1.349 – 4.872 Cl 95%) after carrying out a chi-square test. These findings correspond with other studies which suggest that there is a statistically significant relationship between the loss of job and the reduction in income. Studies that were carried out by the International Labor Organization found that the pandemic caused massive damage to both formal and informal economies, which left men and women workers vulnerable since the majority lost their jobs and others went unpaid, [27]. Furthermore, a study that was conducted in the Maranhao state of Brazil indicated a relevant prevalence of loss of work and income plus an acute association with appropriate factors, [25].

The results of the univariate analysis found that more than half of the respondents' businesses were closed (64%). The results of this study are in line with research by Putra et al in 2020, where in Indonesia, 25 % of business owners had lost their businesses, [26]. The closure of business had a statistically significant relationship with the reduction in income, with a P value of 0.010 (1.210 – 4.575 Cl 95%). These results are in line with other studies. A study that was conducted by the Department of Economics, University of Illinois showed that most businesses had varying beliefs on the dates the lockdowns were to end. Furthermore, they found out that a majority of small businesses were delicate and the delayed opening of these businesses led to collapse, [17]. There was a strong relationship between people's ability to afford food prices and the reduction in income. These results correspond with other studies that suggest that there is a relationship between the ability to afford food and the reduction in income. A study in Nepal showed that participants faced food insecurity due to increased prices of commodities and food. Since factories and construction sites were closed, poor daily laborers were the most affected ones, [12]. In addition, projections show that people who live mainly in sub-Saharan Africa and Southeast Asia are likely to fall into life-threatening income hardships and food insecurity, [15].

The ability to have a balanced diet was associated with the reduction in income and this result is in line with other studies that suggest that those with higher incomes are more likely to have a balanced diet. A report published by UNICEF, World Health Organization, and World Food Program calls upon governments to make new policies which will favor low-income earners to afford a balanced diet, [28]. Extensive research has shown that a lot of people suffered and consumed an unbalanced diet due to Covid-19 lockdowns, [18]. Knowing the reason why the government put up the lockdown was associated with the reduction in income, with a P value of 0.034 (1.045 - 3.458 Cl% 95). This is so because a person's belief about how serious the disease or danger is is a significant matter. Therefore, severity can be based on medical consequences or personal beliefs about how the condition or disease would affect lives. A majority of workers stayed at home while many business owners closed their businesses due to the lockdowns which were implemented by the government. These results are in line with other studies which suggest that the people who knew why the government put up lockdowns remained at home and were not brutalized. However, they registered an income decline since production was reduced.

There was no statistically significant relationship between the age of respondents and the reduction in income. The results of this study are in line with the research of Morgan et al. in 2021 in the Lao PDR, Myanmar, Philippines, and Viet Nam, [29]. The age of the Household head is not associated with the Covid-19-induced income decline in the pooled sample. But it has some effects in some countries. The findings from this study do not correspond with other studies that suggest that there is a significant relationship between age and income. Extensive studies show that age is a substantial cause of inequality. Some scholars even suggest that the majority of young people pose the least wealth are mainly those below the age of 35, [13], [14], [30]. Nonetheless, there was no statistically significant relationship between education and a reduction in income. These results do not correspond with other studies which suggest that education is closely related to levels of income, [31]. In addition, no statistically significant relationship was observed between household size and reduction in income. Our results do not match with other studies that have found that families with high household sizes face a reduction in income. Research has shown that consumption increases as the number of household members increases.

No statistically significant relationship was observed between the gender of respondents and

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reduction in income. Our findings differ from extensive research which suggests that there is a relationship between gender and reduction in income. Some scholars argue that women are more likely to work in informal sectors, ending up earning lower wages compared to men. While others suggest that unequal access to education, health services, and finance is prevalent between men and women, thereby creating a strong relationship between gender and reduction in income, [22], [32], [33]. Furthermore, marital status had no statistically significant relationship with the reduction in income. This result does not correspond with other studies which suggest that there is a statically significant relationship between marital status and reduction in income. For example, a study that was carried out by Steven Henry Dunga from North-West University, South Africa showed that married heads of households had higher incomes compared to single, divorced, and widowed people, [23]. While other scholars suggest that marriage confers health-protective benefits in part through pooled income relative to other marital statuses, [24].

The results of the univariate analysis found that more than half of the respondents (58%) had an employment status. The results of this study are in line with the research of Selden and Berdahl (2020). Nearly two-thirds of Hispanic people (64.5%) considered at high risk for coronavirus live with at least one person who is unable to work from home, [34]. On the contrary, employment status had a statistically significant relationship with the reduction in income. Our findings are in line with other studies which suggest that there is a relationship between employment status and incomes. A study carried out using baseline data from part of the Dutch prospective cohort study found that there was a strong relationship between employment status and income, [35]. In addition, a study which was carried out in Korea showed that there was a strong relationship between employment status and a reduction in income among workers with disabilities, [16]. Medical insurance ownership had a strong relationship with a reduction in income. Households which had medical insurance were less likely to face a reduction in income since major medical bills would be covered by insurance. Our findings correspond with other studies which suggest that there is a relationship between having medical insurance and income, [36].

Having directly or indirectly contacted patients suffering from Covid-19 had a statistically significant relationship with a reduction in income. This could be because every person who was found in contact with patients suffering from Covid-19 was isolated and quarantined for 14 days. To any business person that is a sure reduction in income and loss of jobs. These findings are in line with other studies and reports which suggest that having direct or indirect contact with patients suffering from Covid-19 has a strong relationship with a reduction in incomes, [37]. However, the respondents' feeling that they would be discriminated against by others if they contracted Covid-19 had a statistically significant relationship with a reduction in income. These findings are in line with other results from other studies which indicate that people feeling that they would be discriminated against due to various diseases has a strong relationship with reduction in income. This is because such a feeling reduces people's production and it stops many from going to work or attending to their businesses, hence causing a reduction in income, [21], [38].

Knowledge of the best ways of controlling Covid-19 had a statistically significant relationship with a reduction in income. People who knew the ways of preventing Covid-19 were more likely to survive and maintain their businesses, hence leading to a steady income. While those who had no knowledge of the ways of preventing Covid-19 were more likely to be infected by the virus and die. Others who survive had to close their businesses and take care of themselves or their loved ones. This condition slowed down their productivity and thereby reduced their incomes. These findings are in line with other studies which showed that people who had knowledge of preventing Covid-19 had an upper hand compared to those who did not have such knowledge, [39]. However, after controlling the variables, two variables had a strong effect on the reduction in income, namely education with a P value of 0.042 OR 2.124 and medical insurance ownership, with a P value of 0.012 OR 0.357.

Uganda was among the first countries in sub-Saharan Africa to enact specific laws on Covid-19 as early as March 17th, 2020. Presidential speeches were an effective medium for delivering Covid-19-related public health measures (non-pharmaceutical interventions) to the public that relied on sound scientific evidence such as recommendations from the World Health Organization and Centers for Disease Prevention. However, these pronouncements were not law in Uganda. Thus, there was a need to enact public health laws to enforce. Article 23 (1) (d) of the 1995 Constitution of Uganda provides for the withdrawal of personal liberties for the purpose of preventing the spread of an infectious or contagious disease. Hypothetically, if the Public Health Act (Cap 281) did not exist, the 1995 Constitution would be sufficient. The last time Uganda applied Sect. 27 of

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the Public Health Act, namely, the Public Health Rules (Plague Control), Statutory Instrument 281–27 was in the 1980s. Recently, Uganda has successfully contained several highly contagious disease outbreaks like cholera, yellow fever, and ebola virus disease without necessarily enacting special laws. The case of Covid-19 was unique due to the high-level political commitment to Presidential speeches legalized by enacting Rules, [40]. Uganda has a policy to control Covid-19, namely "These Rules may be cited as the Public Health (Control of Covid-19) Rules, 2020", [41].

6. Conclusion

In this study, researchers showed a significant association between income and several variables in Uganda, which are the loss of jobs, closure of businesses, and knowledge of why the government put up lockdown. It was shown that two variables had a strong effect on the reduction in income and these were education with a P value of 0.042 OR 2.124 and medical insurance ownership with a P value of 0.012 OR 0.357. Increasing income is associated with better health. However, it is evidenced that 76 percent of people did not have health insurance. Furthermore, households with medical insurance had their bills covered during the Covid-19 outbreak, while families without health insurance spent a lot of money on medical bills. This forced the high court of Uganda to order the government to regulate Covid-19 treatment costs. In addition to that, in this research, it is evidenced that 65 percent of respondents had high education levels while knowing the best ways of controlling Covid-19 had a statistically significant relationship with a reduction in income.

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