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Women's Participation in VSLA Savings as a Financial Buffer Influencing Health-Seeking Behavior in Eastern Democratic Republic of Congo

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Abstract: Access to affordable and quality healthcare remains a persistent challenge in low- and middle-income countries, where high out-of-pocket expenditures expose households to financial hardship and delayed care-seeking. In contexts such as Eastern Democratic Republic of Congo, community-based financial mechanisms like Village Savings and Loan Associations (VSLAs) are increasingly recognized as potential pathways to strengthen household resilience and improve access to healthcare. This study examines the extent to which women's participation in VSLA savings functions as a financial buffer influencing health-seeking behavior. A baseline cross-sectional comparative design was employed between November 2024 and January 2025 across three health zones (Goma, Karisimbi, and Nyiragongo). A total of 420 VSLA members were sampled, equally divided into intervention and control groups. Data were collected through structured interviews and analyzed using descriptive statistics, chi-square tests, and odds ratios to assess associations between savings participation, income levels, duration of membership, and healthcare utilization indicators. The findings indicate no significant baseline differences between groups in illness occurrence or healthcare utilization, confirming comparability. However, important trends emerge. While VSLA participation does not significantly influence the occurrence of illness, it is positively associated with healthcare-seeking behavior, particularly among members with 4–6 years of participation (OR = 1.91, $p < 0.05$). Higher savings levels are also associated with increased use of formal healthcare services. Despite these improvements, over 90% of respondents rely on out-of-pocket payments, with minimal uptake of health insurance. In conclusion, VSLA savings participation enhances households' financial capacity to seek healthcare but remains insufficient to ensure financial protection. Integrating VSLAs with community-based health insurance and strengthening health system support mechanisms are essential to achieving more equitable and sustainable healthcare access.

Keywords: *Village Savings and Loan Associations (VSLA); Health-Seeking Behavior; Financial Protection; Out-of-Pocket Expenditure; Community-Based Health Insurance (CBHI); Democratic Republic of Congo; Healthcare Access.*

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I. INTRODUCTION

Health care access is still a global problem which attests to elusive health for all principles. The means of financing health care expenditure for any country are important in ensuring the health status of the country (Mwinuka, 2023). In LMICs many people experience inaccessibility to quality health care services and are unprotected against financial risks (Fadlallah et al., 2018); (Sanogo et al., 2019). Out-of-pocket spending on health push people to extreme poverty each year (Sirag & Mohamed Nor, 2021). Nearly 60% of respondents experienced catastrophic health expenditures (CHE), while around 30% had to borrow money to pay for some aspect of their medical treatment (Adeniran et al., 2023). Lack of financial protection made some people when they are sick to either forgo or delay seeking health care and hence increase on burden of diseases (Mulaga et al., 2021).

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On the absence of viable mechanism of including these people in the insurance scheme, households have to seek for alternatives to finance their health care. Such alternatives may include income from family members, savings or financial support from religious organizations, relatives, or other sources that are non-refundable. Other alternatives include sales of household properties including land, livestock, jewellery, borrowing from financial institutions or individuals (Kasahun et al., 2020). Access to healthcare is conceptualized as a multidimensional and dynamic process rather than a simple measure of service availability. Following (Levesque et al., 2013), access is understood as the interaction between health systems and populations, encompassing the ability of individuals to perceive health needs, seek care, reach health facilities, obtain appropriate services, and benefit from effective treatment. (Hoseini-Esfidarjani et al., 2021) further emphasize that access depends not only on physical proximity but also on affordability, acceptability, and quality of care. The purpose of the study is to assess how VSLA participation through savings can assure the financial buffer influencing health seeking behavior in Goma and surroundings.

II. METHODOLOGY

➢ *Study Design, Approach and Setting*

This study adopted a baseline cross-sectional comparative design to examine the relationship between women's participation into savings and selected health-related outcomes. It was conducted between November 2024 and January 2025 in three health zones located in and around the city of Goma, namely Goma, Karisimbi, and Nyiragongo. These health zones are situated in the eastern part of the Democratic Republic of the Congo, a region characterized by recurrent humanitarian crises, economic vulnerability, and limited financial protection mechanisms for healthcare. In such contexts, community-based financial groups such as VSLAs can play an increasingly important role in supporting household resilience and access to essential services, including healthcare.

➢ *Study Population and Sampling*

The study population included members of VSLAs operating within the selected health zones. VSLAs are community-based financial groups that enable members to accumulate savings, access small loans, and mobilize solidarity funds for emergencies, including health-related expenditures. A total sample of 420 respondents was targeted, divided equally between intervention and control groups, with 210 individuals in each group. The sample was drawn from at least 41 VSLAs in the intervention arm and 41 VSLAs in the control arm, with each association comprising a minimum of 25 members.

Sampling was conducted using a cluster-based approach at the level of VSL groups. Within each selected association, approximately one-fifth of the members were selected to participate in the survey. Respondents were identified based on their experience in the association and their availability at the time of data collection, ensuring representation of active members' participation into VSLA for at least three years. This approach allowed for adequate representation of VSLA participation dynamics while maintaining feasibility in field data collection.

➢ *Data Collection Methods*

This research employed a quantitative data collection approach based on structured interviews. Data were collected using a standardized questionnaire consisting of 26 closed-ended questions (from which 13 of them are exploited in this paper), administered through face-to-face interviews with selected respondents. The variables examined in this paper included background information, such as sex, age, marital status, education level, housing tenure, occupation, and main sources of income; VSLA participation such as length of participation into VSLA and levels of savings and health-related variables occurrence of illness, health-seeking behavior, treatment choices, and modes of healthcare payment. A questionnaire was designed to capture these variables, pretested before field deployment to ensure clarity, consistency, and relevance to the local context. Interviews were conducted by trained enumerators familiar with the study area and local languages.

➢ *Data Analysis*

Data entry, processing, and analysis were performed using IBM SPSS Statistics 27.0. Descriptive statistics were used to summarize the sociodemographic characteristics of respondents, as well as variables related to VSLA participation and healthcare utilization. Results were presented in the form of tables and graphical representations to facilitate interpretation. Inferential statistical analysis was conducted to explore relationships between VSLA participation variables and selected health outcomes. Specifically, Chi-square tests (χ^2) were used to assess the statistical significance of associations between categorical variables. In addition, odds ratios (OR) with 95% confidence intervals (CI) were calculated to estimate the strength and direction of associations between key variables, including participation in VSLA financial and solidarity mechanisms and health-related outcomes such as illness occurrence and health-seeking behavior. A significance level of $p < 0.05$ was used to determine statistical significance.

➢ *Ethical Considerations*

Ethical approval for this study was obtained from the Great Lakes University of Kisumu Ethical Review Committee. Locally, the authorization to conduct the research was granted by the Comité National d'Ethique de la Santé (CNES) at the Provincial Health Office level. Participation in the study was voluntary, and all respondents were informed about the purpose and procedures of the research prior to the interviews. Verbal informed consent was obtained from each participant before data collection. Respondents were assured that the information they provided would be treated with strict confidentiality and used exclusively for academic and research purposes. Personal identifiers were not included in the dataset to ensure the anonymity and privacy of participants.

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III. RESULT

- *Comparative Analysis of Background Variables of the Respondents*

This section consists of comparing sociodemographic and socioeconomic characteristics of Village Savings and Loan Association (VSLA) members across the intervention and control groups within the study area. These background variables include sex, age, marital status, household composition, education level, housing tenure, economic activity status, and main sources of income.

Table 1 Baseline Sociodemographic Characteristics of the VSLA Participants

Sociodemographic characteristics	Category	Intervention	Control
Age of the respondent	Mean	38.5	40.1
	STD	11.94	10.94
	Min	18	20
	Max	72	66
	Range	54	46
Sex of the respondent	Female	89.0	93.3
	Male	11.0	6.7
Matrimonial status	No partner	22.9	16.7
	With partner	77.1	83.3
Education level	None	14.8	10.5
	Primary	29.1	33.3
	Secondary	50.5	51.4
	University	5.7	4.8

Regarding age distribution, respondents in both groups fall within a similar adult age range. The mean age was 38.5 years (SD = 11.94) in the intervention group and 40.1 years (SD = 10.94) in the control group. Participants ranged from 18 to 72 years in the intervention group and 20 to 66 years in the control group, reflecting a wide age distribution of economically active adults within the study population. In terms of sex composition, the sample is predominantly female in both groups. Women represent 89.0% of respondents in the intervention group and 93.3% in the control group, while men account for 11.0% and 6.7%, respectively. Concerning marital status, the majority of respondents reported living with a partner, accounting for 77.1% in the intervention group and 83.3% in the control group, while those without a partner represent 22.9% and 16.7%, respectively. With respect to educational attainment, both groups show similar patterns. The majority of respondents reported secondary education (50.5% in the intervention group and 51.4% in the control group), followed by primary education (29.1% and 33.3%, respectively). A smaller proportion reported no formal education (14.8% in the intervention group and 10.5% in the control group), while only a limited share attained university education (5.7% and 4.8%, respectively).

Table 2 Baseline Socioeconomic Characteristics of the VSLA Participants

Socioeconomic characteristics	Category	Intervention	Control
Household size	Mean	7.76	7.94
	StD	2.79	2.80
	Min	2	1
	Max	16	16
	Range	14	15
Housing tenure	Owner	50.5	57.1
	Tenant	49.8	42.9
Employment	Active	9.0	94.8
	Non active	10.0	5.2
Main source of income	Petty trade	59.0	56.2
	Salary	4.3	4.3
	Agro-livestock	4.3	4.3
	Handicraft	23.3	28.1
	Not declared	9.0	6.7

The household structure is characterized by relatively large family sizes. The mean household size was 7.76 members (SD = 2.79) in the intervention group and 7.94 members (SD = 2.80) in the control group. Household sizes ranged from 2 to 16 members in the intervention group and 1 to 16 members in the control group. In terms of housing tenure, approximately half of respondents reported owning their dwelling, accounting for 50.5% in the intervention group and 57.1% in the control group, while 49.8% and 42.9%, respectively, indicated that they were tenants. Regarding economic participation, the vast majority of respondents in both groups reported being economically

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active, although the proportions differ slightly between the intervention and control groups. Finally, the main sources of income are largely comparable between groups. Petty trade constitutes the primary livelihood activity, reported by 59.0% of respondents in the intervention group and 56.2% in the control group. Other income sources include handicraft activities (23.3% in the intervention group and 28.1% in the control group), while salaried employment and agro-livestock activities represent relatively small proportions in both groups (each around 4.3%). A small share of respondents did not declare their income source.

➢ *Description of Healthcare Utilization Indicators*

The baseline table below presents indicators of healthcare utilization among VSLA members, focusing on variables that provide critical insight into household resilience and access to care. These include the occurrence of illness within households, patterns of care-seeking in formal health facilities, preferred treatment modalities, modes of payment for healthcare services, and perceptions of cost affordability.

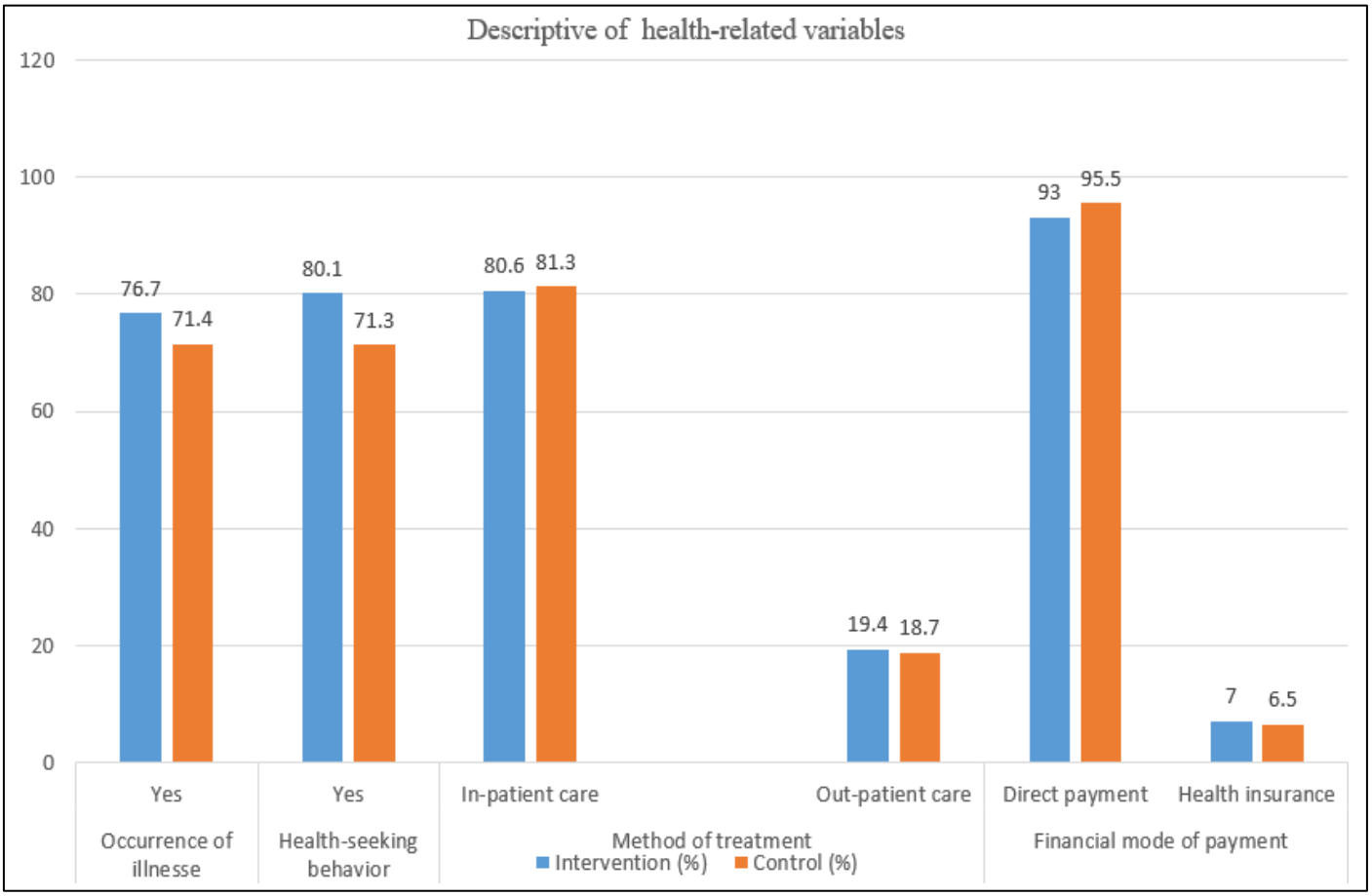

Fig 1 Description of Health-Related Indicators

At baseline, there were no statistically significant differences between the intervention and control groups across key health-related indicators. The occurrence of illness was similar across groups (76.7% vs. 71.4%; $\chi^2(1) = 1.50$, p = .221, OR = 1.31, 95% CI [0.85–2.01]), suggesting comparable morbidity profiles before the intervention. Health-seeking behavior was slightly higher in the intervention group (80.1%) compared to the control group (71.3%), approaching statistical significance (p = .055, OR = 1.63, 95% CI [0.99–2.67]), possibly reflecting pre-existing group-level differences in health awareness or accessibility. For treatment methods, both groups predominantly reported in-patient care (~81%), with no significant difference (p = .893, OR = 0.95, 95% CI [0.54–1.68]). Similarly, direct payment remained the most common financial mode of health expenditure (>93%) in both groups, indicating a shared dependence on out-of-pocket payment systems at baseline (p = .851, OR = 0.67, 95% CI [0.23–1.98]).

➢ *Duration in the Association by Health Outcomes*

- *Duration in the Association by Occurrence of Illnesses*

The tables present a comparative analysis of the relationship between the duration of member participation in the intervention group and two key health outcomes: (a) the advent of illness within the family, and (b) the propensity to seek healthcare services. Specifically, the data are stratified by length of group membership (1–3 years, 4–6 years, and 7 years or more) to examine whether prolonged exposure to the intervention is associated with differential patterns of morbidity and health-seeking behavior when compared to the control group.

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Table 3 Duration of VSLA Membership and Advent of Illnesses

Variables	Intervention		Control		Diff.	χ^2(df)	*p*-value	
Duration in the group	Occurrence of ill (%)		Occurrence of ill (%)			3.171(2)	0.205	no
	Yes	No	Yes	No				
≤ 3 yrs	74.8	25.2	66.7	33.3	8.1			
4 -- 6 yrs	82.0	18.0	77.0	23.0	5.0			
≥ 7 yrs	75.9	24.1	80.6	19.4	-4.8			

Illness occurrence was comparable between groups at baseline**.** Across all durations of VSLA membership, differences in self-reported illness between intervention and control groups were small and not statistically significant ($\chi^2(2) = 3.17$, $p = .205$), confirming baseline equivalence in health status. No consistent duration-related pattern in illness occurrence. Slightly higher illness proportions in the intervention group for ≤ 3 and 4–6 years of membership, and a marginally lower proportion among ≥7-year members, did not reach statistical significance, indicating random variation rather than systematic differences.

Table 4 Duration of VSLA Membership and Health-Seeking Behavior: Odds Ratios with 95% CI

Duration in the group	Health-seeking		Health-seeking		Diff.	OR(CI95%)	χ^2(df)	*p*-value	Sig.
	Yes	No	Yes	No			12.540 (2)	0.002	Yes
≤ 3 yrs	84.7	15.3	80	20	4.7	1.38 (0.73–2.60)			
4 -- 6 yrs	78	22	64.9	35.1	13.1	1.91 (1.06–3.45)			
≥ 7 yrs	63.6	36.4	56	44	7.6	1.37 (0.71–2.66)			

Healthcare-seeking behavior differed significantly by duration of VSLA membership. Duration of participation was significantly associated with healthcare utilization, with intervention participants consistently showing higher odds of seeking care than controls ($\chi^2(2) = 12.540$, $p = .002$). Strongest effect among mid-term members (4–6 years). Participants with 4–6 years of VSLA membership in the intervention group had nearly twice the odds of seeking healthcare compared to controls (OR = 1.91, 95% CI [1.06–3.45]), indicating a statistically significant association. Weaker and non-significant effects among short- and long-term members. Although higher odds of healthcare-seeking were observed for members with 1–3 years (OR = 1.38) and ≥7 years (OR = 1.37), the confidence intervals crossed unity, suggesting no statistically conclusive effect at these durations.

- *Length of Membership vs Mode of Treatment*

The following table examines the association between members' duration of participation in the Village Savings and Loan Association (VSLA) and their patterns of healthcare utilization, specifically in terms of treatment choices and modes of payment. By comparing categories of length of membership, the table provides insight into whether sustained engagement in the association is linked to differences in the type of care sought (e.g., formal versus informal treatment) and the financial mechanisms used to cover health expenses.

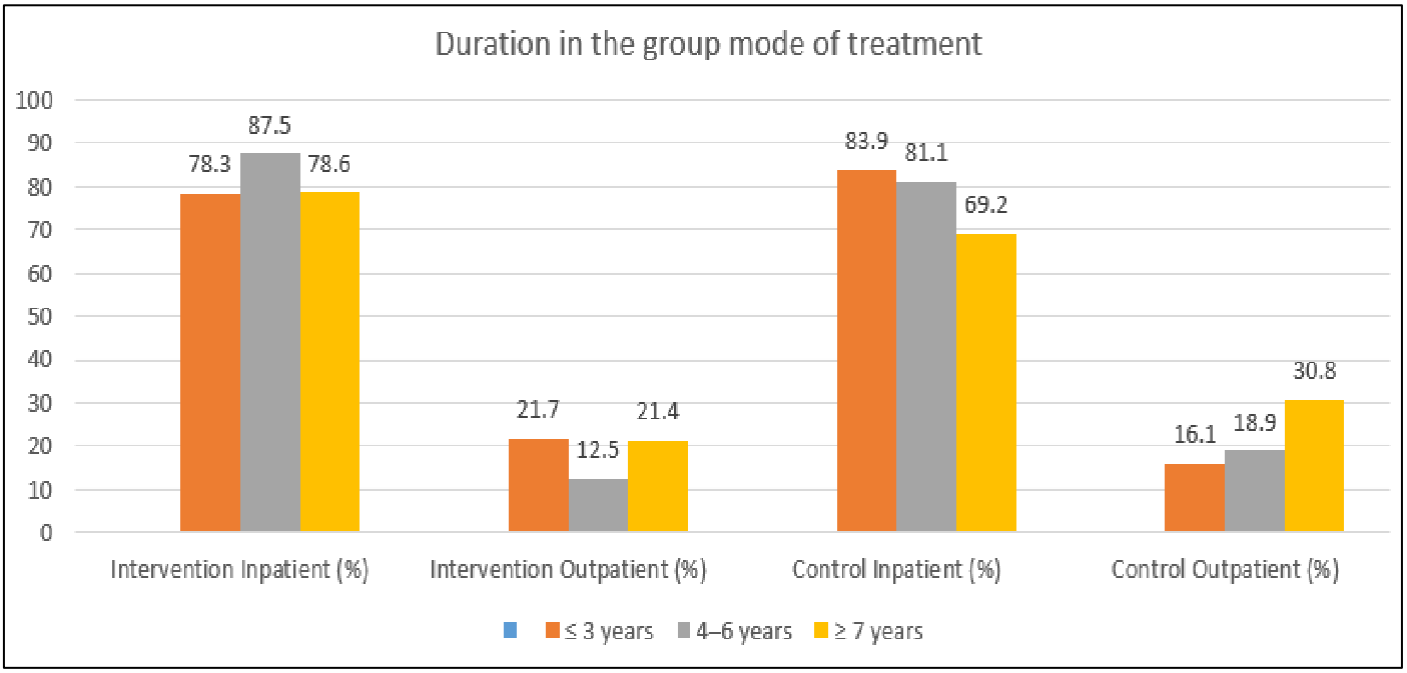

Fig 2 Comparison Between Duration in the Group with Mode of Treatment Across Intervention and Control

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Across all durations of membership in the VSLA, in-patient care predominated over out-patient services in both the intervention and control groups. Among members with three years or less in the association, the intervention group recorded a lower share of in-patient care compared to the control group (−5.6 percentage points), accompanied by a corresponding increase in out-patient utilization (+5.6 percentage points). In the 4–6 year membership category, however, the pattern shifted, with the intervention group showing higher in-patient care utilization (+6.4 percentage points), suggesting greater reliance on facility-based in-patient services at this stage of participation. This trend became more pronounced among members with seven or more years in the association, where the intervention group again demonstrated higher in-patient service use (+9.3 percentage points) and a lower share of out-patient care (−9.3 percentage points).

➢ *Income from the Association by Health Outcomes*

- *Baseline of Occurrence of Illnesses by Income Across the Two Arms*

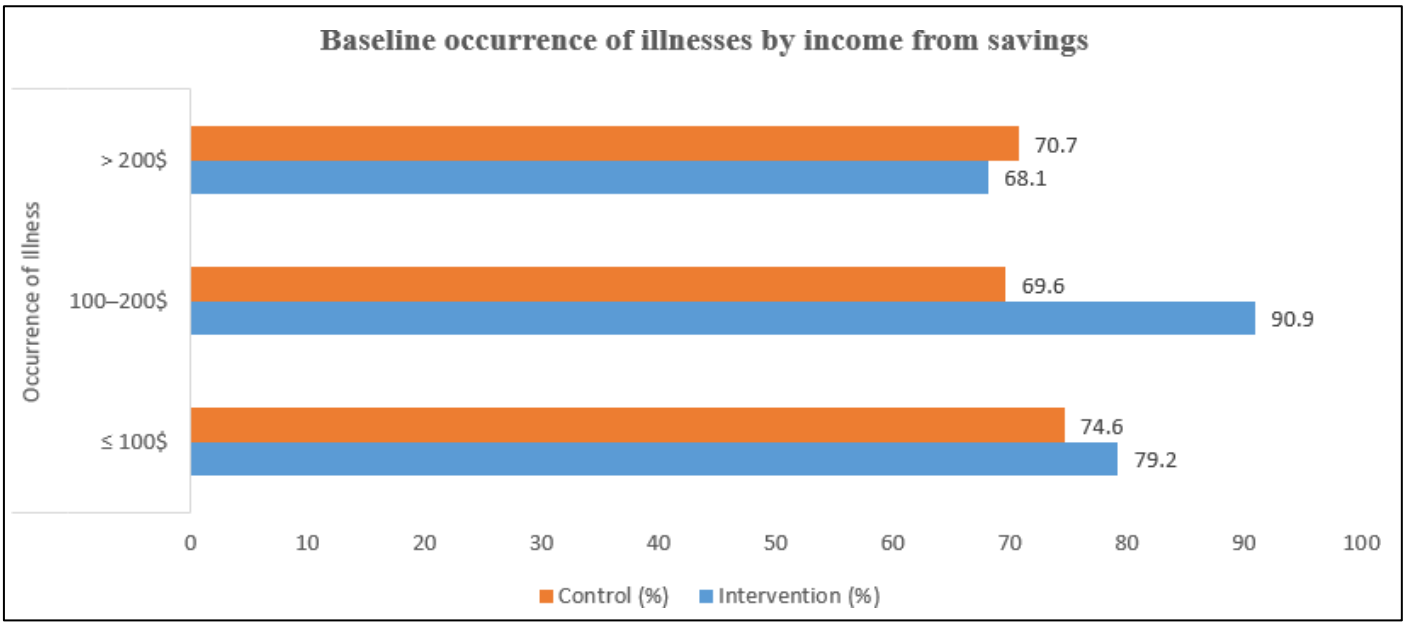

Fig 3 Income Savings vs Illness Occurrence

At baseline, the analysis of occurrence of illness by income from savings indicated that illness was slightly more common among participants in the intervention group (76.7%) than in the control group (71.4%), representing a 5.3% difference. The trend showed that illness prevalence was highest among those earning 100–200 USD (90.9% vs. 69.6%), and lowest among those earning above 200 USD (68.1% vs. 70.7%). However, these variations were not statistically significant ($\chi^2 = 4.496$, $p = .174$), suggesting that income differences did not substantially affect illness occurrence between the groups at baseline.

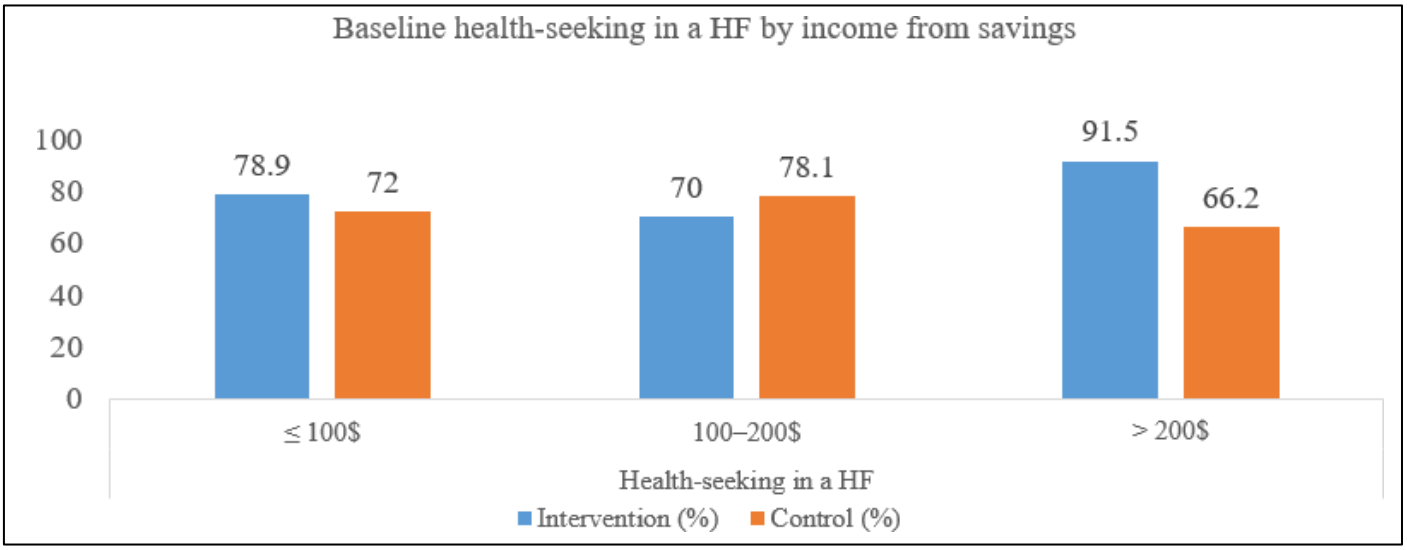

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Fig 4 Income from Savings vs Health-Seeking

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Regarding health-seeking behavior in a health facility, a higher proportion of participants in the intervention group (80.7%) sought care compared to the control group (71.3%), a positive change of 9.4%. Health-seeking was particularly high among those with income above 200 USD in the intervention group (91.5%) compared to the control (66.2%), indicating that higher-income members were more likely to utilize formal healthcare services. Nevertheless, the differences across income categories and between groups were not statistically significant (χ^2 = 0. 6.066, p = .108).

- *Income from Savings vs Mode of Treatment*

This baseline figure examines the relationship between income generated through savings and key dimensions of healthcare utilization among members of Village Savings and Loan Associations (VSLAs). Specifically, it explores two critical variables: the methods of treatment adopted, distinguishing between inpatient and outpatient care, and the financial modes of payment used, namely direct out-of-pocket payments versus reliance on health insurance schemes.

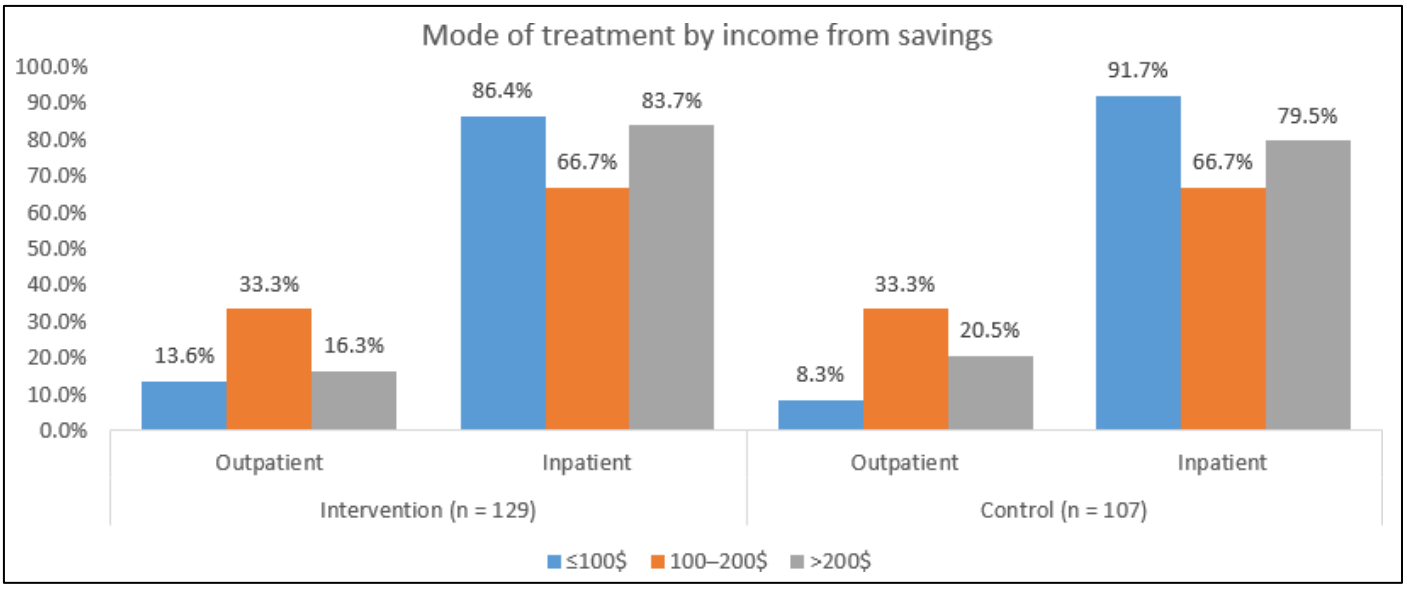

Fig 5 Income from Savings by Mode of Treatment

At baseline, analysis of the mode of treatment by income from savings revealed that the majority of participants in both the intervention (80.6%) and control (81.3%) groups sought inpatient care, while a smaller proportion opted for outpatient services (19.4% and 18.7%, respectively). Across income categories, individuals earning ≤100 USD were more likely to use inpatient care in both groups, with a statistically significant difference between the two (χ^2 = 10.599, p = .014).

- *Income from the Groups by Financial Mode of Payment*

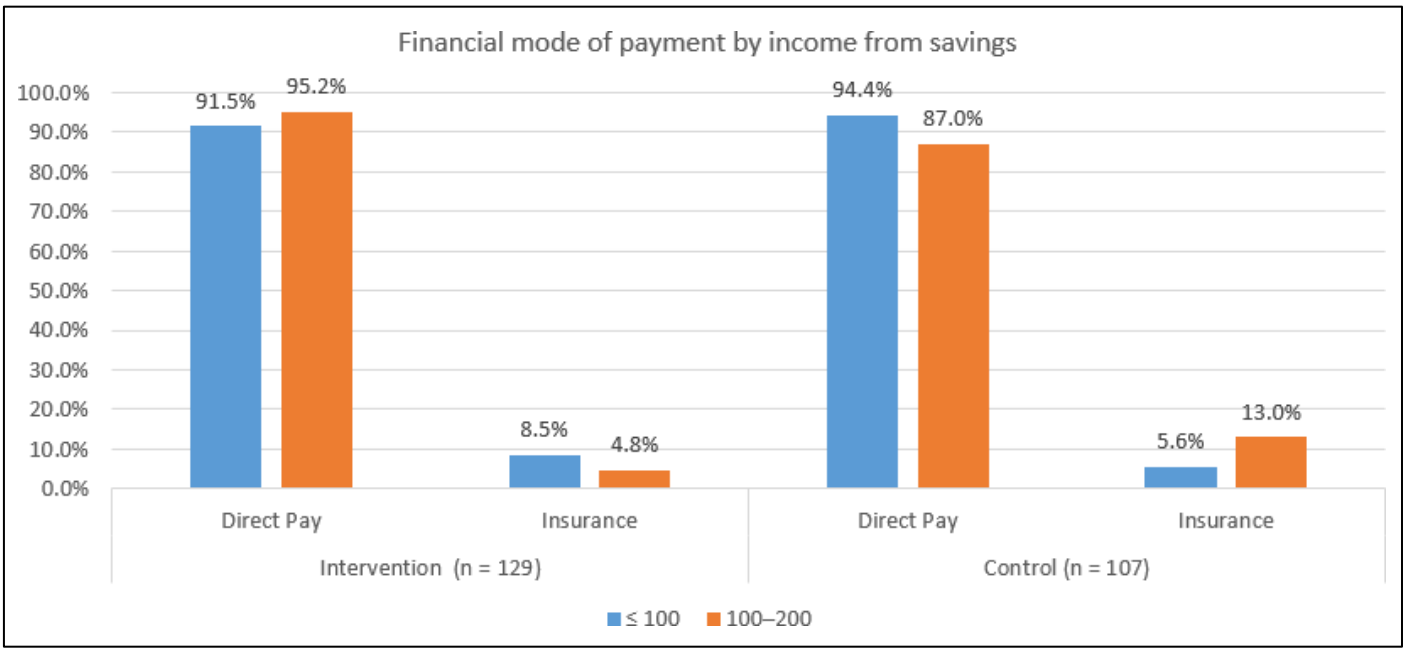

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Fig 6 Financial Mode of Payment by Income from Savings

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At baseline, analysis of the mode of treatment by income from savings revealed that the majority of participants in both the intervention (80.6%) and control (81.3%) groups sought inpatient care, while a smaller proportion opted for outpatient services (19.4% and 18.7%, respectively). Across income categories, individuals earning
≤100 USD were more likely to use inpatient care in both groups, with a statistically significant difference between the two ($\chi^2 = 10.599$, $p = .014$).

In contrast, differences among middle- and higher-income earners were not significant, and the overall group comparison approached significance ($\chi^2 = 7.761$, $p = .051$). Regarding the financial mode of payment by income from savings, the majority of participants in both groups relied on direct payment (93.0% in the intervention and 93.3% in the control group), while only a small fraction used health insurance (7.0% and 6.7%, respectively). Across income levels, slight variations were observed, but none were statistically significant ($\chi^2 = 1.589$, $p = .662$).

IV. DISCUSSION

The section discusses the results two main categories of variables that, in one hand include VSLA participation like duration in the group and income from the group and on the other, health care utilization such as occurrence of illnesses, health seeking, mode of treatment and financial mode of payment. These one are confronted to the available literature.

A. VSLA Participation by Health Care Outcomes

At baseline, the observed differences between intervention and control groups in both occurrence of illness and health-seeking behavior across income from savings categories did not reach statistical significance, indicating that the two groups were largely comparable before program implementation. However, the descriptive trends, especially higher illness reporting and more frequent health facility attendance among those in the intervention arm, offer important insights consistent with patterns reported in prior research on income and health behavior in low-resource contexts.

- *Duration of VSLA Membership and Advent of Illnesses*

The findings indicate that duration of participation in Village Savings and Loan Associations (VSLAs) is more strongly associated with healthcare-seeking behavior than with the biological occurrence of illness. At baseline, self-reported illness was comparable between intervention and control groups across all durations of VSLA membership, confirming equivalence in underlying health status. This result is consistent with the broader literature showing that savings group participation does not directly reduce morbidity, but rather influences households' capacity to respond to illness once it occurs (Ksoll et al., 2016); (Karlan et al., 2017).

The absence of a clear duration-related gradient in illness occurrence further supports the interpretation that savings mechanisms operate primarily through behavioral and financial channels rather than preventive health effects. Prior studies in Sub-Saharan Africa similarly report that informal financial inclusion improves coping strategies and reporting behavior without necessarily reducing illness incidence, especially in contexts characterized by structural health risks and limited public health infrastructure (Banerjee et al., 2019); (Gugerty et al., 2019).

- *Duration of Participating in the Group and Health Seeking*

In contrast, healthcare-seeking behavior differed significantly by duration of VSLA membership. Intervention participants consistently exhibited higher odds of seeking care than controls, with the strongest and statistically significant effect observed among mid-term members (4–6 years). This pattern aligns with evidence that the benefits of savings participation are cumulative and tend to peak once members have accumulated sufficient liquidity, financial confidence, and familiarity with collective norms that encourage formal care-seeking (Ksoll et al., 2016; Karlan et al., 2017). The weaker effects among short-term members likely reflect insufficient savings accumulation, while the attenuation among long-term members may indicate saturation effects, whereby additional years of participation yield diminishing marginal behavioral change.

Across all durations, inpatient care predominated in both groups, reflecting delayed care-seeking (Umuhoza et al., 2018, 2018) and the severity of illness at presentation, features widely documented in fragile and low-income urban settings (McIntyre et al., 2017); (Clarke-Deelder et al., 2022).such as eastern Democratic Republic of Congo. However, duration-specific patterns suggest that savings participation influences *how* care is accessed. Short-term members in the intervention group showed relatively higher outpatient use, suggesting earlier care-seeking enabled by modest financial buffers. Conversely, among mid- and long- term members, higher inpatient utilization points to an increased capacity to finance more resource-intensive treatment when required. Similar dynamics have been observed in studies showing that savings groups improve households' ability to absorb large, sudden health expenditures, including hospitalization (Banerjee et al., 2019); (Banerjee et al., 2021).

Finally, direct out-of-pocket payment remained the dominant mode of healthcare financing across all durations, with minimal use of insurance. This finding mirrors extensive evidence that informal savings mechanisms, while effective in facilitating service utilization, do not substitute for formal risk-pooling systems (McIntyre et al., 2017; World Health Organization, 2019). Taken together, the results suggest that sustained VSLA participation enhances healthcare-seeking behavior and treatment intensity through gradual financial empowerment, but its protective capacity remains limited in the absence of integrated health insurance and broader health-system reforms.

B. Income from Group and Health Care Outcomes

- *Occurrence of Illness and Occurrence of Illnesses*

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The data suggest that the occurrence of illness varied slightly across income categories, with the highest prevalence observed among those saving between 100–200 USD in the intervention group (90.9%). This aligns with studies showing that moderate-income groups often report higher illness incidence due to increased awareness and access to diagnostic services rather than actual higher morbidity (Onwujekwe et al., 2010); (Wagstaff et al., 2018) ; (Wagstaff & Neelsen, 2020). Lower-income households may underreport illness episodes either because they lack the means to seek diagnosis or because of perceptual and reporting biases common in poor communities (Filmer & Pritchett, 2001).

Furthermore, VSLA members, being involved in financial activities, may be more health-aware and thus more likely to identify and report illness episodes within their households. This interpretation is consistent with the argument that participation in savings groups can indirectly influence health awareness and health-seeking attitudes (Ksoll et al., 2016b); (Anyango et al., 2007). However, since the chi-square results indicate no statistically significant association between income from savings and illness occurrence ($p = .056$), these trends should be interpreted cautiously as indicative but not conclusive at baseline.

- *Income and Health-Seeking Behavior*

In terms of health-seeking behavior, the intervention group exhibited a higher proportion of individuals seeking care in health facilities (80.7%) compared to controls (71.3%), with particularly strong differences among those saving ≥200 USD (+25.3%). This pattern echoes findings from studies showing that income security and liquidity positively affect the ability to seek timely healthcare (Tura et al., 2020). Households with greater savings capacity are better able to absorb out-of-pocket costs and are therefore less likely to resort to self-medication or informal care (Giedion et al., 2013).

In VSLA and CBHI contexts, prior evidence from sub-Saharan Africa indicates that access to regular savings and micro-insurance mechanisms enhances members' capacity to mobilize resources for healthcare (Ahmed et al., 2018). Hence, even though statistical significance was not achieved in this baseline comparison ($\chi^2(3)=6.066$, $p=.108$), the descriptive pattern supports the notion that financial inclusion can foster proactive healthcare utilization, a mechanism the intervention likely intends to strengthen over time.

Overall, the absence of significant differences across income strata and outcomes suggests a reasonable level of baseline equivalence between groups, a prerequisite for the validity of subsequent quasi-experimental impact analyses . The observed trends, higher illness reporting and greater health-seeking among those with higher savings in the intervention arm, could reflect early manifestations of empowerment and resource mobilization associated with VSLA membership (Allen & Panetta, 2010; Cook et al., 2002). These patterns will be important to track at endline to determine whether the integration of community-based health insurance into VSLAs leads to measurable and statistically significant improvements in healthcare access and financial protection.

- *Income from Savings vs Methods of Treatment and Financial Mode of Payment*

At baseline, the results indicate a statistically significant association between the level of income from savings and the type of healthcare sought, with households in the lowest savings category (≤ 100 USD) relying predominantly on inpatient care, while those with moderate savings (100–200 USD) showed relatively higher outpatient utilization. This pattern suggests that financial capacity derived from savings may influence the timing and intensity of care-seeking, enabling moderately resourced households to seek treatment earlier through outpatient services (Suchman et al., 2020). Similar findings have been reported in Ethiopia and Kenya, where income and savings capacity were positively associated with outpatient care utilization and early care-seeking behaviour (Demissie & Atnafu, 2021) ; (Mwenda et al., 2021).

However, despite this variation in utilization, the mode of payment remained largely unchanged across savings categories, with direct out-of-pocket payments exceeding 90% and insurance coverage below 10%. This is consistent with regional evidence showing persistently low health insurance uptake and continued reliance on direct payments among informal-sector households, even where community-based schemes exist (Oraro & Wyss, 2018)). The observed non-significant association between savings and payment mode ($p = 0.154$) suggests that while savings may enhance the capacity to pay for care, they do not necessarily translate into prepayment or risk-pooling behavior, likely due to limited availability, trust, or awareness of insurance mechanisms (Obrist et al., 2022). These findings underscore that savings mobilization alone may improve access through greater financial flexibility but is insufficient to ensure financial protection; hence, linking savings groups with community-based health insurance could enhance both utilization and risk coverage.

V. CONCLUSION, RECOMMENDATIONS AND LIMITATIONS

- *Conclusion*

This study demonstrates that participation in Village Savings and Loan Associations (VSLAs) plays a meaningful role as a financial buffer influencing health-seeking behavior, particularly in fragile and low-resource settings such as Eastern Democratic Republic of Congo. At baseline, both intervention and control groups were largely comparable in terms of sociodemographic characteristics, illness occurrence, and healthcare utilization, ensuring a solid foundation for subsequent impact evaluation.

The findings show that VSLA participation does not directly reduce the occurrence of illness, which remains largely shaped by structural and environmental factors. However, it significantly enhances households' capacity to respond to illness, particularly through improved healthcare-seeking behavior. This effect is most pronounced among

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members with 4–6 years of participation, suggesting that the benefits of savings accumulation and financial confidence are cumulative over time.

Furthermore, while increased savings are associated with greater utilization of formal healthcare services and a shift toward more timely care-seeking, out-of-pocket payments remain the dominant mode of healthcare financing, with very limited use of health insurance. This highlights a critical gap: although VSLAs improve financial access, they do not provide sufficient financial protection against health shocks.

In general, the study confirms that VSLAs contribute to enhanced healthcare utilization through financial empowerment, but their full potential can only be realized when complemented by formal risk-pooling mechanisms such as community-based health insurance (CBHI).

➢ *Recommendations*

Integrate VSLAs with Community-Based Health Insurance (CBHI): Policymakers and development partners should promote structured linkages between VSLAs and CBHI schemes to transition from out-of-pocket payments to prepayment and risk pooling.

Strengthen financial literacy and health education: Programs should incorporate health awareness and financial planning components to reinforce the translation of savings into effective and timely healthcare utilization.

Support mid-term members as strategic entry points: Given the stronger impact observed among members with 4–6 years of participation, interventions should target this group for scaling insurance enrollment and health financing innovations.

Subsidize insurance premiums for low-income households: Public authorities and donors should consider targeted subsidies or matching contributions to make insurance more accessible to poorer VSLA members.

Promote early care-seeking behavior: Health promotion strategies should encourage outpatient and preventive care to reduce reliance on costly inpatient services.

Strengthen health system quality and trust: Improvements in service quality, availability of drugs, and provider responsiveness are essential to ensure that increased financial capacity translates into effective healthcare utilization.

➢ *Some Limitations of the Study*

This study presents a couple of limitations that should be considered in this analysis:

- This is a cross-sectional baseline design that relied on baseline data only, which limits the ability to establish causal relationships between VSLA participation and health outcomes.
- Being based on self-reported data, the measures of illness occurrence may be subject to recall bias or reporting bias.
- The study accuses a limited measurement of health outcomes mainly on healthcare utilization rather than clinical health outcomes, which restricts conclusions about actual health improvements.
- The results are specific to VSLAs operating in Goma and surrounding and may not be fully generalizable to other regions with different socioeconomic or health system conditions.
- This study focused on the demand-side oriented factors at a point that factors such as quality of care, facility availability, and health workforce constraints were not deeply analyzed, and yet they strongly influence healthcare utilization.
- The might be a potential selection bias in VSLA membership due to the fact that individuals participating in VSLAs may already differ in motivation, social capital, or economic orientation, which could influence observed outcomes.

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