

Assessing the Impact of Hepatic Fibrosis on Adults and Adolescents Living with Schistosomiasis in Leyte, the Philippines

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Introduction

- Schistosomiasis is a neglected tropical disease impacting ~250 million worldwide
- Schistosoma japonicum* species (below) highly endemic in areas of the Philippines with estimated prevalence in Leyte of 51.7% (ages 7-30s)
- Spread through *Oncomelania* snails and livestock in fresh waterways, such as rice paddies



- Despite Praziquantel (PZQ) MDA, significant morbidity/mortality persist
- Schisto-related hepatic fibrosis (HF) linked to worsening inflammation, anemia, and undernutrition

Aim: Assess the impact of hepatic fibrosis progression on adolescents and adults living with *S. japonicum* in Leyte, the Philippines through a 3 year longitudinal study

Methods

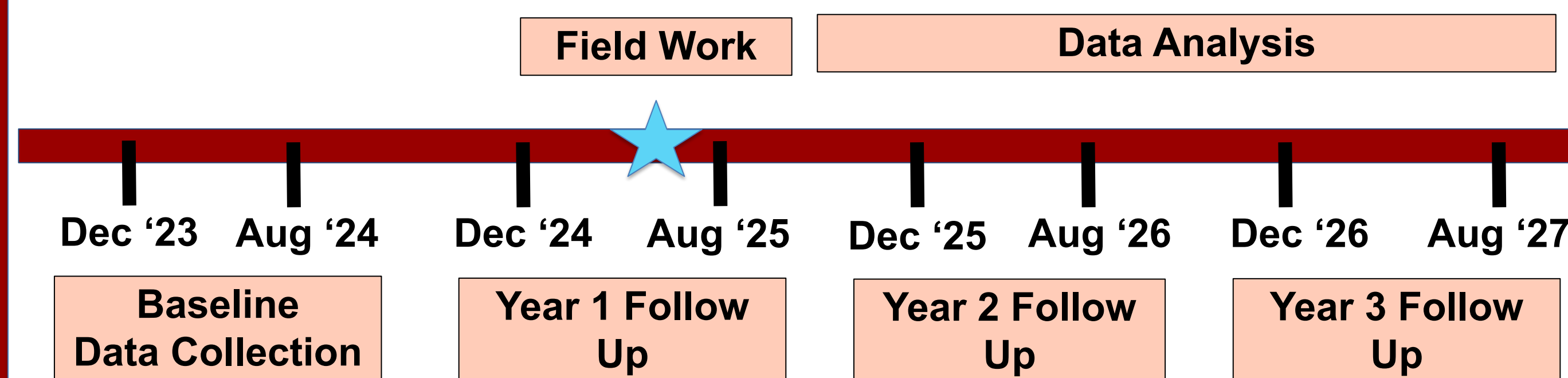
- Identified areas of highest *S. japonicum* burden in Leyte
- N=420 adults and adolescents recruited for longitudinal study
 - Inclusion:** *S. japonicum* infection and related HF, otherwise healthy, age 14-60
 - Exclusion:** Non-schisto related HF, significant illness
- Participants with HF (n=342) followed for 3 years and receive annual follow-ups:
 - PZQ + albendazole dose
 - Kato-Katz testing
 - Biomarkers, Metabolic, CBC Panel
 - Hepatic Ultrasound



Image 2. Collecting *Oncomelania* snails in Jaro, Leyte



Timeline



Results

Figure 1. Descriptive Statistics of Baseline Cohort by Type of Hepatic Fibrosis

Characteristic	Overall N = 420 ¹	None N = 78 ¹	PPF N = 140 ¹	Network N = 64 ¹	PPF and Network N = 138 ¹	p-value ²
Sex						<0.001
Female	134 (32%)	32 (41%)	60 (43%)	21 (33%)	21 (15%)	
Male	286 (68%)	46 (59%)	80 (57%)	43 (67%)	117 (85%)	
Age (yrs)	34.1 (14.2)	32.2 (13.0)	29.5 (13.9)	40.2 (14.0)	36.9 (13.8)	<0.001
Portal Hypertension	12 (2.9%)	0 (0%)	2 (1.4%)	0 (0%)	10 (7.2%)	0.003
ALT (U/L)	26.3 (17.1)	32.3 (26.6)	21.9 (12.6)	25.7 (12.8)	27.6 (14.5)	<0.001
AST (U/L)	29.8 (11.3)	30.8 (13.0)	27.0 (10.1)	29.8 (9.8)	32.2 (11.4)	<0.001
Hemoglobin (g/dL)	14.3 (2.7)	14.2 (1.6)	14.1 (2.1)	14.7 (5.5)	14.2 (1.6)	0.7
Hematocrit (%)	43.4 (8.2)	43.0 (4.2)	42.7 (5.6)	44.8 (17.6)	43.5 (4.7)	0.2
Liver Portal Vein Size (mm)	6.9 (3.3)	6.4 (2.7)	6.7 (3.2)	7.2 (2.6)	7.3 (3.8)	0.003
Average Weight (kg)	54.5 (11.3)	57.6 (15.3)	53.7 (11.0)	53.6 (9.3)	54.0 (9.3)	0.3
Average Height (cm)	157.4 (8.7)	155.7 (9.5)	156.9 (9.0)	156.8 (7.9)	159.3 (7.9)	0.022
Drinks Alcohol	191 (77%)	34 (85%)	50 (64%)	33 (79%)	74 (83%)	0.014

¹ n (%); Mean (SD)

² Pearson's Chi-squared test; Kruskal-Wallis rank sum test; Fisher's exact test

Figure 2. Type of Fibrosis by Sex

Chi-square p-value = 2.952e-06

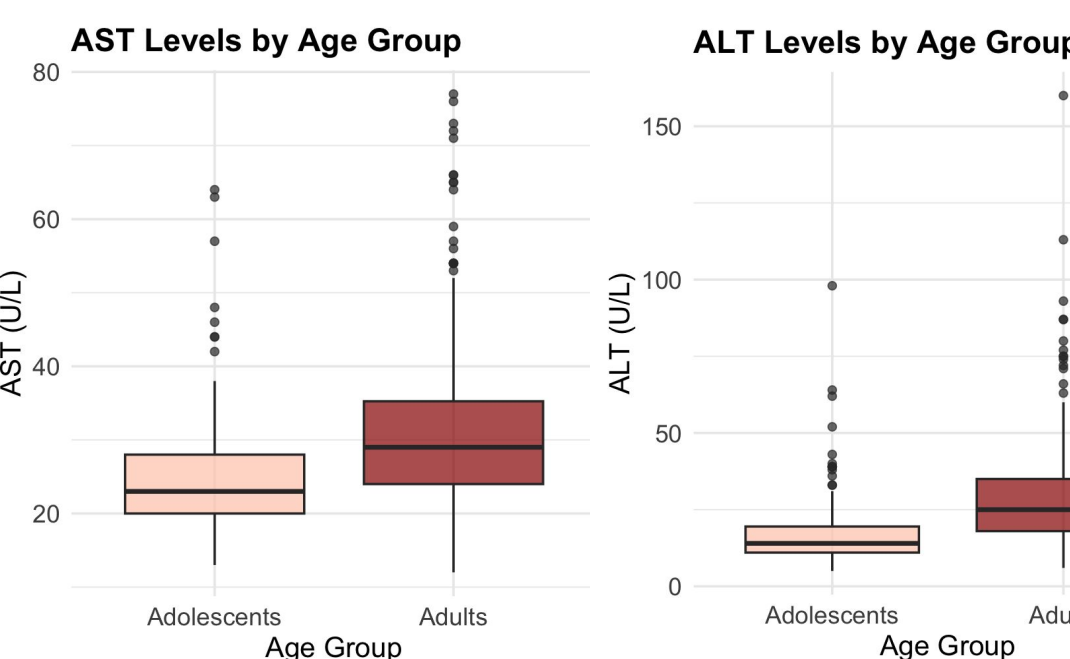
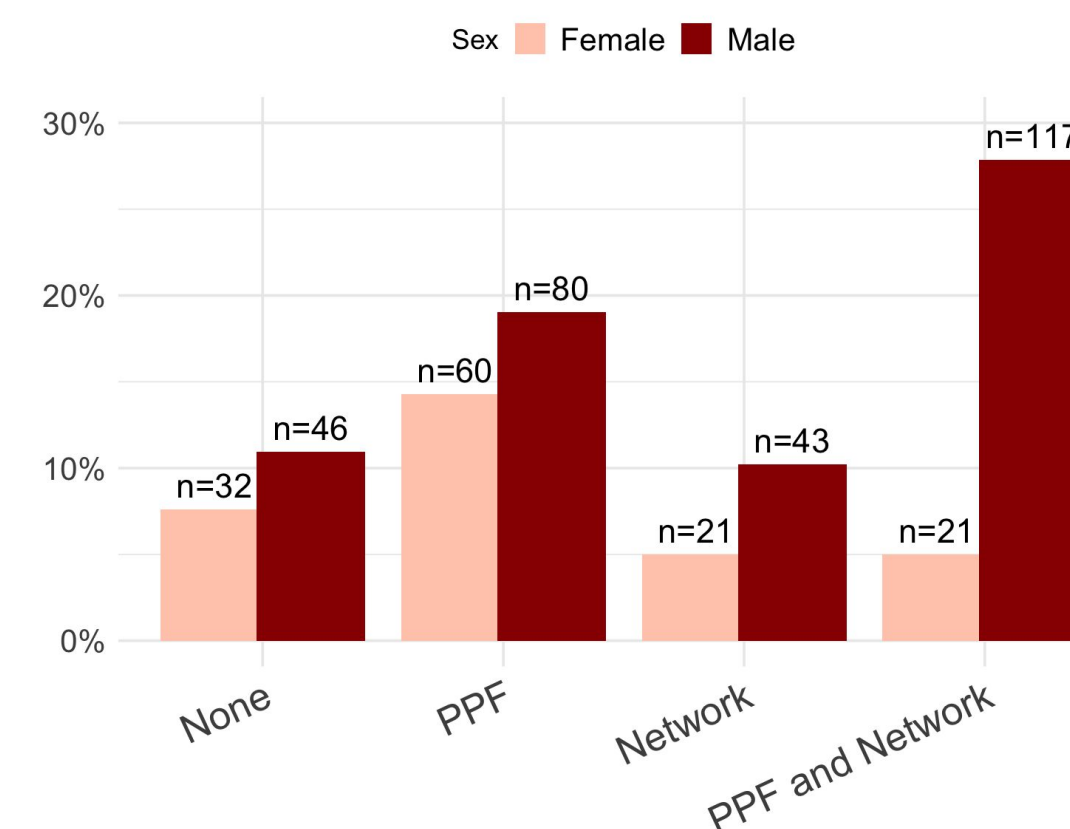


Figure 3+4. Liver Function Tests in Adolescents (14-19) and Adults (20+)

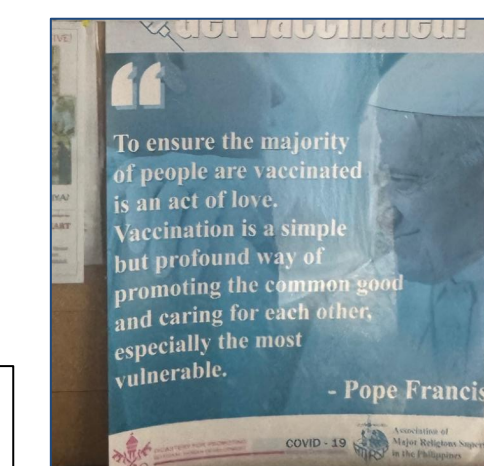
Field Work Observation

- Visited Leyte from 6/4-7/4/2025
- Worked with RITM team and community health workers (CHWs) on snail collection, Kato-Katz training, and site visits



- Conducted clinical observation at the Governor Benjamin T. Romualdez General Hospital and Schistosomiasis Center

Images 5+6. Rice Paddy, Jaro; Health Infographics at Palo Cathedral in Tacloban



Conclusion

- Baseline data demonstrates presence of HF in majority of participants (81%)
- Sex is significantly associated with fibrosis type, regardless of age and liver function markers
- Portal HTN in only PPF or PPF+Network groups
- Longitudinal data necessary to track progression and health implications of HF in patients with schistosomiasis

Acknowledgments

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