The Health Status of Returned Female Migrants in the Central American Corridors: The effects of violence and motherhood on health

Paper written for IPC Conference 2025, Brisbane, Australia

Amos Channon, Centre for Global Health and Policy, University of Southampton, UK

Sarah Neal, Centre for Global Health and Policy, University of Southampton, UK

Ann Garbett, Independent Researcher

Niceforo Garnelo-Bibiano, Instituto Nacional de Salud Pública, Mexico

Abstract

Background

Migration is both a determinant of and is shaped by health, yet the health experiences of female migrants, particularly upon return to their home country, remain underexplored in Central America. This study investigates how the migration journey affects self-reported general and mental health among returned female migrants to Honduras and El Salvador, with a focus on the roles of violence, travel companionship, and socio-economic vulnerability.

Methods

Data were collected through a cross-sectional survey of 1,279 recently returned female migrants at reception centres in Honduras and El Salvador in mid-2022. The survey captured demographic, migratory, and health-related information across three migration phases: pre-departure, during transit, and upon return. Health trajectories were classified into five categories based on self-reported health status at each stage. Multinomial logistic regression was used to identify factors associated with different health trajectories.

Results

Health deteriorated significantly over the migration cycle, with the proportion of women reporting average or worse health increasing from 14.4% pre-departure to 45.9% upon return. Nearly half (46.9%) reported negative impacts on mood. Exposure to violence, solo travel with children, use of coyotes (smugglers), and longer duration journeys were significantly associated with poorer health trajectories. Conversely, migrating for work and having financial resources were protective factors. Solo mothers travelling with children had up to 2.8 times higher odds of reporting consistently poor health than solo females without children.

Discussion

The findings highlight the cumulative health burden of migration for women, particularly those traveling alone with children or exposed to violence. Economic vulnerability and irregular migration routes further compound health risks. These results underscore the need for gender-sensitive, trauma-informed health services and reintegration programs that address the specific needs of returned female migrants. Policies must consider the full migration cycle to effectively support women's health and well-being upon return.

Introduction

Migration is widely recognized as both a consequence of the social determinants of health, as well as a determinant of health (Sweileh, 2024), with the migratory journey affecting both physical and mental well-being of individuals (Idemudia & Boehnke, 2020). However, even though this is known, there is little empirical research that explores the effects of migration in depth in Central America, and especially focusing on female migrants. Women face unique challenges during migration, yet their experiences are frequently underrepresented given the historical male majority who migrate. Yet with the 'feminisation of migration', especially within the migration corridor in question (Rossi, 2022), this lack of knowledge does hinder appropriate policy responses to ensure that support is available for women who return to their home country after migration.

No two migrant journeys are the same, with decisions made before and during the migratory journey based on family responsibilities, exposure to violence, and socio-economic vulnerabilities. Some women migrate with children or other family members, while others travel alone. These experiences can have cumulative effects on health, with different phases of the migratory journey – departure, transit, arrival, and return – each presenting distinct stressors and health risks. Despite this, the dynamic nature of health across the migration cycle remains poorly understood, especially in the context of return migration.

Return migration introduces additional layers of complexity. For many women, returning to their country of origin is not a voluntary or planned decision, but rather the result of deportation, failed asylum claims, or insurmountable challenges in the host country. Furthermore, this may be experienced while caring for children. The intersection of motherhood, violence, and disrupted migration pathways is often overlooked yet is likely to create specific health vulnerabilities for those involved.

This study aims to highlight the mental and general health amongst female migrants from Honduras and El Salvador who have returned to their origin countries. By focusing on women who have re-entered their countries of origin, the research aims to explore how the migration experience, particularly when it ends in return, relates to health outcomes. Understanding this relationship is critical for informing policies and interventions that support migrant women not only during their journey but also upon their return, ensuring that health systems are responsive to their specific needs and experiences.

Framework on Migration and Health

The effect of migration on health depends on both the circumstances of the migration alongside the phase of the migratory journey (Carrol et al, 2020). Some influences on individual self-rated and mental health are focused on the pre-migration period, while

others are related to the migratory journey itself or the post-migration period. Understanding the reasons why someone chooses to migrate in the first place is vital, especially if there has been experience of trauma or violence which has influenced the reason to migrate. However, the migratory process has not been seen to be solely related to negative effects on health, with some positive health results observed in studies. These may be due to the experience of migration and the support used during the journey.

Bhagra (2004) developed a framework which studies the risk factors (vulnerability) and the protective factors (resilience) for psychological disorders based on the individual circumstances and the migration stage. Although there has been research on the pre- and post-migration stages, there is a known lack of information about experiences during the migration journey itself. Carroll et al (2020) developed the Bhagra (2004) framework further for studying mental health outcomes of Venezuelan migrants. This study further develops this framework to be more general regarding health status and incorporate the issues of inter-personal violence at all stages, including health on return to the origin country, incorporating the situation relating to how the return to origin country was facilitated and the experience during this return phase of (Figure 1).

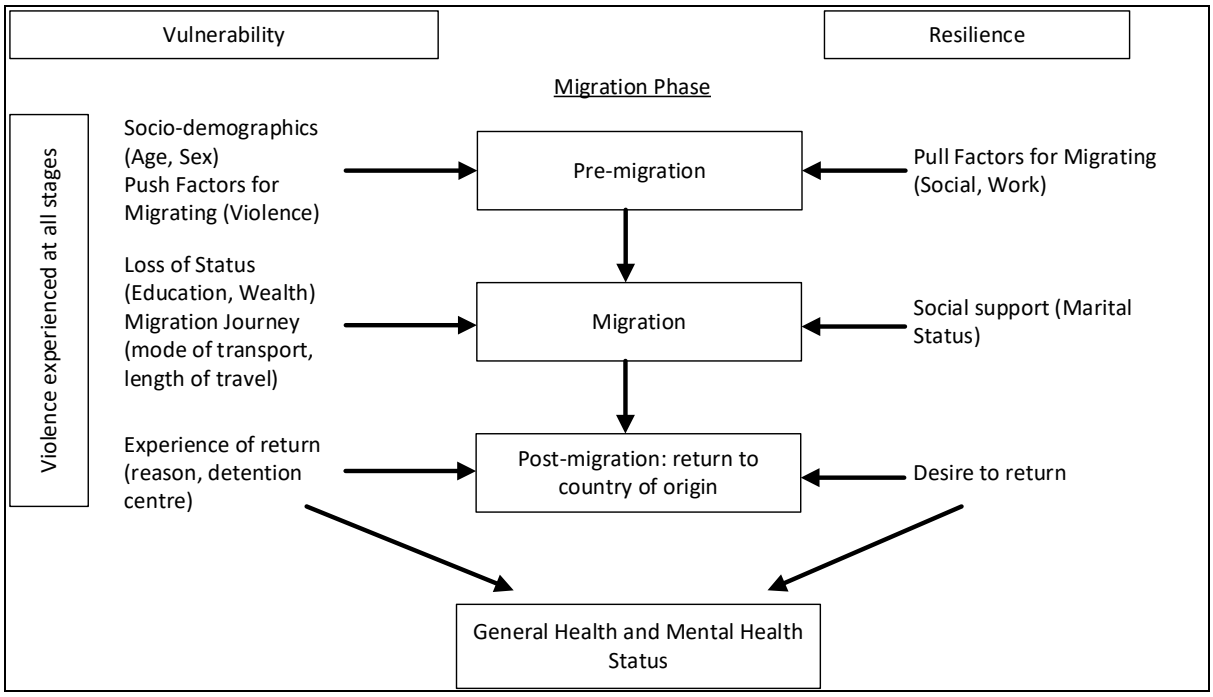

Figure 1: Modified model of migration and health (Bhagra, 2004; Carroll et al, 2020)

This study examines the adapted migration and health framework to assess the development of general and mental health over the different migration phases, whilst

understanding the added vulnerabilities experienced through violence. As such it aims to answer the research questions:

1. What is the trajectory of self-reported general and mental health status amongst returned female migrants to Honduras and El Salvador?
2. Which factors are associated with changes in health status over the migratory period, and does travelling companionship and violence play a role in any association?

Data

The survey used for this study was carried out as a collaboration between the International Organization for Migration (IoM) and the University of Southampton. The aim of the survey was to produce baseline information on the sexual and reproductive health needs and barriers of women in situations of forced and prolonged displacement in Central and South America. Fieldwork took place in Honduras and El Salvador, specifically within Returned Migrant Reception Centres—facilities that receive individuals repatriated from the United States and Mexico. Data collection occurred in June and July 2022, following the resumption of deportation processes that had been suspended during the COVID-19 pandemic.

The survey data come from interviews with 1,279 recent female migrant returnees (mostly deportees) at four support centres. Specifically, at Honduras' three key centres in Omoa, San Pedro Sula and Belén, and at El Salvador's main centre in San Salvador. These were chosen because they had the largest number of returnees arriving during this period. The survey interviews were conducted in Spanish by female interviewers with computer-assisted questionnaires on electronic devices. Respondent selection was non-probability, venue-based approach. All women over the age of 15 years arriving at the centres were eligible to participate. Interviewers aimed to approach and interview all eligible women arriving at the reception centres on the days they were present. Participants were offered a small toiletry pack as appreciation for their time. However, due to highly variable arrival patterns, with some days bringing many returnees by bus or plane, others very few or none, not all eligible women could be interviewed on high-volume days. Moreover, the centres did not receive advance lists of arrivals. Given the selection approach, the sample cannot be interpreted to represent the full population of returnee women, but it is broadly reflective of the population passing through the centres during the study period. Importantly, among women approached, 91% agreed to participate. For further details of the survey methodology please see Rueda-Salazar et al. (2024).

The survey instrument collected a wide range of information, including demographic and socio-economic background, details of the most recent migration episode (such as

motivations, travel routes, modes of transport, and companions), and self-reported physical and mental health across different stages of the migration cycle. It also included questions on healthcare access, experiences of violence, and perceived discrimination. Many items were adapted from established instruments like the Demographic and Health Surveys (DHS) and the Multiple Indicator Cluster Surveys (MICS) to ensure comparability and methodological rigor. Ethical approval for the study was granted by the University of Southampton.

Interviewers received comprehensive training, covering ethical considerations and safety protocols, including how to respond to participant distress and refer individuals to appropriate support services. Informed consent was obtained from all participants, with additional parental consent for minors under 18, although unaccompanied minors were treated as emancipated for the purposes of the study. All individuals who participated identified as female. Confidentiality was strictly maintained: no names were recorded, and all data were securely stored. The KOBO platform was used for data collection and management.

Methods

Outcomes and potential explanatory factors, linked to the Bhagra and Carroll framework (Figure 1) were recoded from the responses to the survey. Outcomes were:

- Self-reported health – this was recorded for three different time periods. These were prior to the migratory journey, during migration and at the time of the interview on return.
- Mood – this was asked with regard to a comparison with prior to departure. It explores if mood had improved, decreased or stayed the same. If it had changed, the amount of change was recorded.

Explanatory variables included whether violence (of a number of different types) had been experienced during the migratory journey and also who the woman had travelled with, if anyone. This travelling group focused on whether the woman had children with them who they had to care for. Other explanatory variables included age, marital status, whether having had migrated before, the use of coyotes to cross borders, the length of the migratory journey, whether the reason for travel was due to work or reuniting family, educational level and if they could pay for different services on their journey.

Analysis was conducted using descriptive statistics (including chi-squared tests) and multinomial logistic regression to control for potential confounders to understand if these factors are related to different health trajectories during migration.

Results

General health was collected through questions about the self-perceived health of respondents at different points on their journey, rated on a scale between 1 (very good)

to 5 (very bad). Mental health was collected through the respondents stating whether their mood had been affected by their experience, and by how much.

1279 women were interviewed, with the majority (95.0%) returned to Honduras. Self-perceived health reduced over the migratory journey, as expected (Table 1), with the percentage stating that their health was average or worse increasing from 14.4% before leaving, to 45.9% on return. A further question specifically asked about the effect of the journey on physical health, with over 40% of respondents stating that their physical health had been affected. Mood was greatly affected too, with over half (50.9%) of respondents stating that they had been affected in some way, although the vast majority (46.9% of all respondents) stated that they had been affected negatively. For those whose mood had been affected negatively, most stated that their mood had been affected by a lot (Table 2).

Table 1: Self-reported health at three points in the migratory journey

Self-perceived health status	Before leaving the country of origin		During travel		On return to country of origin	
Very good	319	25.0%	240	18.8%	190	14.9%
Good	769	60.3%	743	58.2%	488	38.2%
Average	164	12.9%	249	19.5%	432	33.9%
Bad	20	1.6%	35	2.7%	139	10.9%
Very bad	4	0.3%	7	0.6%	25	2.0%
Missing	0	-	2	0.2%	2	0.2%
Total	1276		1276		1276	

Table 2: Impact of the journey on mood and scale of impact

		How much has mood been affected?							
		A little		Somewhat		A lot		Overall	
Impact of the migratory journey on mood	Affected positively	9	17.7	26	51.0	16	31.4	51	4.0%
	Affected negatively	51	8.5	253	42.2	294	49.1	599	46.9%
	Not affected	-	-	-	-	-	-	622	48.8%
	Missing	-	-	-	-	-	-	4	0.3%
	Total							1276	

Vulnerability: Violence and Health

The proportion of the respondents who stated that they had faced violence during their migratory journey was only 8.4%, which was lower than expected. Those that faced violence or discrimination had poorer self-rated health on return and stated that their mood had been affected negatively by a lot. Further, women who were affected by violence during the migratory journey had similar self-rated health before leaving than

those who did not face violence, but their health fell much faster over the migratory cycle (Table 3).

Table 3: Percentage of self-rated health by stage of migratory journey and experience of violence during migration

Self-perceived health status	Before leaving the country of origin		During travel		On return to country of origin	
	Violence	No violence	Violence	No violence	Violence	No violence
Very good	28.0%	24.8%	14.0%	19.3%	11.2%	15.3%
Good	51.4%	61.1%	55.1%	58.5%	26.2%	39.4%
Average	16.8%	12.4%	24.3%	19.0%	38.3%	33.5%
Bad	2.8%	1.5%	3.7%	2.7%	17.8%	10.2%
Very bad	0.9%	0.3%	2.8%	0.3%	6.5%	1.5%
Missing	0.0%	0.0%	0.0%	0.2%	0.0%	0.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Resilience: Travelling companions

The travelling companions of the woman are related to changes in mood and self-rated health. The respondent was classified into four groups by who they were migrating with: lone migrants, accompanied migrant (one or more companion but no children), lone migrant with children and accompanied migrant with children (Figure 2).

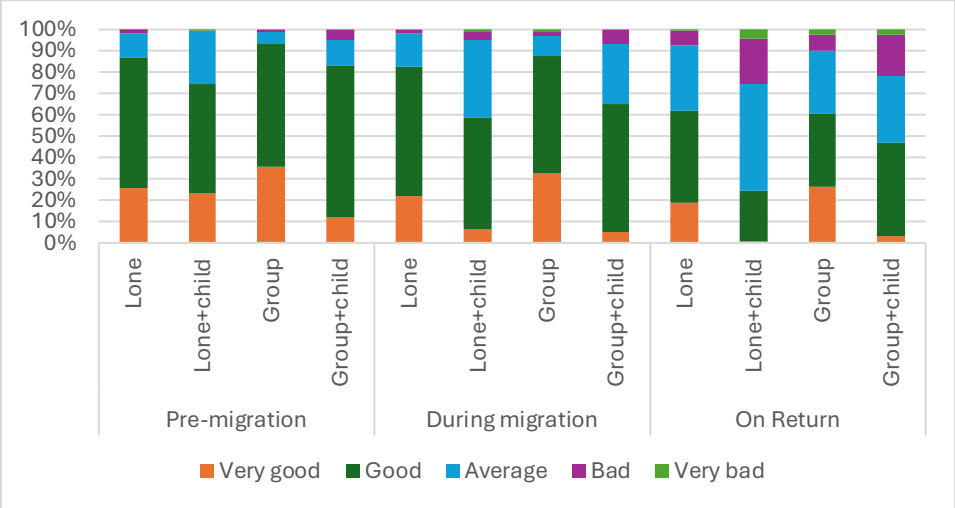

Figure 2: Self-rated health by migratory stage and travelling companion

The self-rated health of women who migrated with children was already lower before the migratory journey began, and it deteriorated further throughout the three stages. Those who travelled without children had better health throughout, but there is a resilience associated with travelling alone. Even though those travelling in a group had better health in the first two stages, by the time of return there was parity in health between the two groups.

Understanding the health trajectory of female migrants

To explore the factors that are linked to self-reported health outcomes at three different points of time a multinomial model was estimated. Self-reported health outcomes at each point was classified as 'Good' (reported as very good or good) or 'Bad' (reported as average, bad or very bad). These were then grouped into five different categories over the three different timepoints (pre-departure, during migration and on return) to give the outcome which is analysed. The five different groups are described below, alongside the percentage of women in each of these groups.

- Good-good-good (GGG): 50.4% of women reporting having good health status at each stage of their journey
- Good-good-bad (GGB): 24.1% of women only reported poorer health status at the end of their journey, on return
- Good-bad-bad (GBB): 9.9% of women started in good health but this deteriorated after departure
- Bad-bad-bad (BBB): 12.7% of women reported poor health at all stages
- Improving: 2.8% of women actually improved in their health status at some stage of their journey.

A summary of the potential explanatory variables and the health trajectory groupings are shown below (Table 4).

The final multinomial model, removing explanatory variables that do not contribute to explaining the health trajectory, is shown in the appendix (Appendix 1). Factors that were significantly related to the health trajectory included exposure to violence, travel group composition, use of a coyote (smuggler), journey duration (categorized as more than one month vs. one month or less), migration motivation (work or family), and access to financial resources. Violence as a cause of migration was not included due to small numbers of women reporting this as a cause, possibly due to fear of reprisals if this was known.

Table 4: Health trajectories of returned female migrants by potential explanatory factors

Explanatory variable	Category	Total (n)	GGG (%)	GBB (%)	GGB (%)	BBB (%)	Improve (%)	Chi^2 (p)
Experience of violence	**No**	1162	52.1	9.7	23.3	12.2	2.7	p=0.004
	Yes	107	32.7	12.2	32.7	17.8	4.7	
Travelling companions	**Solo**	661	58.6	6.2	21.0	10.7	3.5	p<0.001
	Solo with child	226	21.7	18.1	34.1	23.5	2.7	
	Accompanied without child	205	59.5	6.3	26.8	6.3	1.0	
	Accompanied with child	150	44.7	20.0	18.0	14.7	2.7	
Age	**15-19**	125	60.0	8.0	20.0	8.8	3.2	p=0.135
	20-24	420	52.6	10.5	24.5	10.7	1.7	
	25-29	297	46.8	12.1	23.2	14.1	3.7	
	30-34	184	46.7	9.2	27.7	14.7	1.6	
	35-39	129	44.2	10.9	24.8	17.1	3.1	
	40+	117	53.9	4.3	23.1	12.8	6.0	
Marital status	**Not married**	792	53.9	7.7	24.1	11.2	3.0	p=0.001
	Non-resident partner	327	47.7	14.4	22.0	14.1	1.8	
	Resident partner	153	37.9	11.8	28.8	17.7	3.9	
Previous migration	**Not migrated before**	207	54.6	9.7	25.6	7.7	2.4	p=0.191
	Previously migrated	1065	49.6	10.0	23.9	13.7	2.9	
Used coyotes	**No**	458	48.7	13.3	24.5	10.7	2.8	p=0.021
	Yes	809	51.4	7.9	23.9	14.0	2.8	
Length of journey	**Less than a week**	328	55.2	8.5	24.4	8.8	3.1	p<0.001
	1-2 weeks	206	61.2	7.8	20.9	9.2	1.0	
	3-4 weeks	493	45.8	12.2	21.1	16.2	4.7	
	1-6 months	218	45.0	9.2	33.0	12.4	0.5	
	7+ months	25	32.0	8.0	32.0	28.0	0.0	
Migrating for work	**No**	117	33.3	21.4	20.5	19.7	5.1	p<0.001
	Yes	1155	52.1	8.7	24.5	12.0	2.6	
Migrating for family	**No**	974	54.5	8.3	21.4	13.2	2.6	p<0.001
	Yes	298	36.9	15.1	33.2	11.1	3.7	
Education level	**1 to 5 years**	706	51.4	9.1	21.7	14.6	3.3	p=0.062
	6 to 8 years	462	47.6	11.9	27.1	11.0	2.4	
	9+ years	103	55.3	6.8	28.2	7.8	1.9	
Money for journey	**No money**	112	35.7	16.1	17.0	23.2	8.0	p<0.001
	Some money	368	52.7	11.1	13.6	18.8	3.8	
	Sufficient money	726	52.6	6.9	30.7	8.3	1.5	

Traveling solo with a child was consistently associated with significantly higher odds of reporting deteriorating or poor health outcomes. Compared to those in the GGG group, solo mothers had:

- 1.30 times higher odds of being in the GGB group
- 2.28 times higher odds of being in the GBB group
- 2.79 times higher odds of being in the BBB group

This can be seen in Figure 3 for all companion groups. It is clear that travelling solo with children is associated with much poorer health outcomes than the other travelling groups, including travelling with children within a larger group.

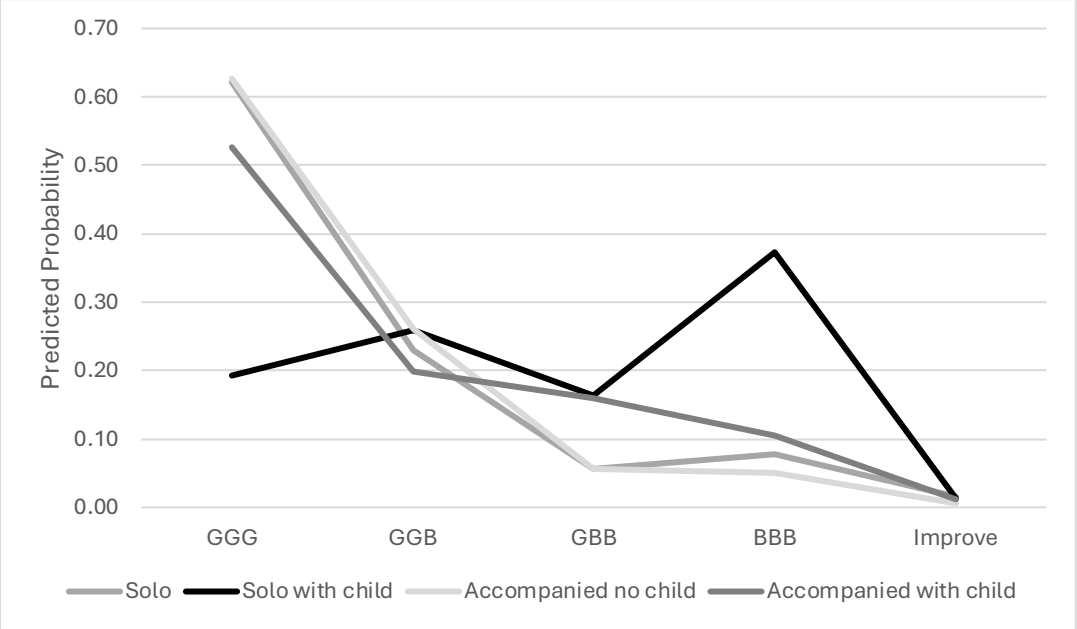

Figure 3: Predicted Probability of Health at Three Points of the Migratory Journey

Exposure to violence was significantly associated with increased odds of reporting deteriorating health (GGB vs. GGG: OR = 1.85, p = 0.028). Associations with other health trajectories were positive but not statistically significant.

Use of a coyote was significantly associated with higher odds of being in the BBB group (OR = 1.63, p = 0.039) compared to the GG group, suggesting that more precarious or clandestine migration routes may contribute to worse health outcomes. However, the use of coyotes may be associated with poorer health at the start of the migratory journey. Longer journeys (more than one month) were marginally associated with lower odds of reporting improved health (Improving vs. GGG: OR = 0.13, p = 0.052), indicating that prolonged migration may hinder recovery or improvement in health status.

Migrating for work was consistently associated with lower odds of being in the GBB (p = 0.001), BBB (p = 0.032), and improving (p = 0.030) groups, suggesting that economic motivations may be linked to more stable health trajectories. In contrast, migrating for family reasons was associated with lower odds of being in the BBB group (p = 0.008), but not significantly associated with other outcomes.

Finally, access to financial resources was a strong protective factor. Compared to those with no money, migrants with some or sufficient financial resources had significantly lower odds of being in the GBB, BBB, and improving groups. For example, those with sufficient resources had:

- 85% lower odds of being in the GBB group

- 87% lower odds of being in the BBB group

Potential factors that were included which were not seen to be related to changes in health over the journey included age, previous migration experience, marital status and education.

Discussion

Migration, especially in the Central American corridor, has important effects on an individual's health status. However, the precise effects of migration on both self-rated health and mental health are not well researched. This paper has indicated that there are compounding effects of both pre-migration characteristics and the migratory journey itself on health, although it is also noted that the migratory journey is closely related to pre-migration for returned female migrants in Central America, specifically Honduras and El Salvador. This demonstrates the importance of treating migratory experiences as a continuum, as shown in the Bhagra (2004) framework. By focusing on self-reported general and mental health across the migration cycle (pre-departure, during transit, and upon return), this research contributes to a growing but still limited body of literature on the intersection of gender, migration, and health. The findings underscore the complex interplay between structural vulnerabilities, individual agency, and social determinants of health, particularly in the context of forced or involuntary return.

Health Deterioration Across the Migration Cycle

The results clearly demonstrate a deterioration in self-perceived health over the course of the migratory journey. While 85.3% of women rated their health as good or very good before departure, this figure dropped to just 53.1% upon return. Similarly, mental health was significantly affected, with nearly half of all respondents (46.9%) reporting that their mood had been negatively impacted by the journey. These findings align with previous research suggesting that migration, particularly when it involves forced displacement, precarious travel conditions, and uncertain legal status, can have deleterious effects on both physical and mental well-being (Idemudia & Boehnke, 2020; Carroll et al., 2020).

The decline in health was not uniform across all women, however. The multinomial model revealed five distinct health trajectories, with only half of the sample maintaining good health throughout the migration cycle. Nearly a quarter experienced a sharp decline only upon return, while others reported a steady deterioration or consistently poor health. A small minority (2.8%) reported improvements in health, suggesting that for some, the migration experience may have offered opportunities for access to better conditions, albeit briefly.

Violence as a Determinant of Health

Violence is known to be related to health through many pathways, and here is no exception. Although only 8.4% of respondents reported experiencing violence during migration, a figure that may reflect underreporting due to stigma or fear, the consequences for those affected were important. Women who experienced violence were significantly more likely to report deteriorating health, particularly towards the end of the migratory journey. This may be related to the conditions that were experienced in the detention centres before return, which are known to be poor. These women also reported worse mental health outcomes, with a higher proportion stating that their mood had been negatively affected "a lot."

This supports the theoretical framework adapted from Bhugra (2004) and Carroll et al. (2020), which posits that exposure to trauma during migration can act as a critical vulnerability factor, compounding pre-existing stressors and undermining resilience. The findings also highlight the need for trauma-informed care and psychosocial support services at all stages of the migration cycle, particularly upon return.

The Burden of Solo Motherhood

Traveling with children, especially as a solo caregiver, emerged as a significant risk factor for poor health outcomes. Women who migrated alone with children had the highest odds of being in a group with poor health at some point on the migratory journey, indicating a consistent pattern of health deterioration. This group began their journey with lower self-rated health and experienced the steepest declines, suggesting both pre-existing vulnerabilities and heightened exposure to stressors during migration.

These findings resonate with broader literature on the feminization of migration, which emphasizes the unique burdens faced by women, particularly those with caregiving responsibilities (Rossi, 2022). Solo mothers may face greater logistical challenges, reduced mobility, and increased exposure to exploitation or violence. They may also experience heightened psychological stress due to concerns for their children's safety and well-being. The data underscore the urgent need for targeted interventions that address the specific needs of this group before and during migration. The decision to migrate may be made under stress and with less preparation, with a possibility of a greater motivation to migrate due to violence within the home country environment. This was not seen in the data due to very few mothers reporting violence as a reason to migrate, but this lack of reporting may be due to fear and stigma.

Structural and Economic Determinants

The use of coyotes (smugglers) and the duration of the journey were also significantly associated with poorer health outcomes. Women who used coyotes had higher odds of being in the BBB group (OR = 1.63, p = 0.039), suggesting that clandestine or irregular migration routes may expose individuals to greater risks. Similarly, longer journeys (over

one month) were marginally associated with lower odds of health improvement, indicating that prolonged exposure to precarious conditions may hinder recovery.

Conversely, economic motivations for migration were associated with more stable health trajectories. Women who migrated in order to find work had significantly lower odds of being in the GBB, BBB, and improving groups, suggesting that economic migrants may be better prepared or more resilient. This may reflect differences in planning, resource availability, or expectations. In contrast, those migrating for family reunification were more likely to experience health deterioration, possibly due to emotional stress or unmet expectations.

Access to financial resources emerged as a strong protective factor. Women with sufficient funds had dramatically lower odds of being in the GBB and BBB groups, by 85% and 87%, respectively, compared to those with no money. This finding reinforces the importance of economic capital as a buffer against the health risks of migration. Financial resources may enable safer travel, better access to healthcare, and reduced exposure to exploitation.

Implications for Policy and Practice

The findings of this study have several important implications for policy and practice. First, they highlight the need for gender-sensitive and trauma-informed health services at migrant reception centres for those who have been returned. These services should be equipped to identify and respond to the specific needs of women, particularly those who have experienced violence or are traveling with children.

Second, the results underscore the importance of integrating health assessments into return and reintegration programs. Many women arrive back in their countries of origin with significantly worse health than when they left, yet health services in these contexts are often ill-equipped to respond. Reintegration programs should include comprehensive health screenings, mental health support, and referrals to appropriate services.

Third, the study points to the need for interventions that address the root causes of migration and health vulnerability. These include poverty, gender-based violence, and lack of access to healthcare and education. Policies that expand legal migration pathways, improve access to services in transit countries, and support family reunification could help mitigate some of the risks identified in this study.

Limitations and Future Research

While this study provides valuable insights, it is not without limitations. The use of a non-probability, venue-based sampling strategy means that the findings cannot be generalized to all returned female migrants across the region, or even within these countries. This is especially the case due to the change of policy from the new US

administration and the increasing deportations, especially to El Salvador. This data was collected before the change in the US government, and there is no information about the additional burden, if any, that this has placed on women migrating from Honduras and El Salvador.

A further limitation is the reliance on retrospective self-reported health measures, which may introduce bias – both recall and desirability – to the results. Without a longitudinal survey which follows women throughout their journeys, which would be logistically and ethically questionable, this limitation is difficult to overcome. Further, the consistency of patterns across multiple indicators lends credibility to the results even with this limitation.

Future research should explore longitudinal outcomes to assess how health evolves after return and what factors facilitate recovery or further decline. Qualitative studies also provide deeper insights into the lived experiences behind the quantitative patterns observed here, particularly among solo mothers and survivors of violence.

Conclusion

This study set out to explore the health trajectories of returned female migrants in Honduras and El Salvador, focusing on two key research questions relating to the general and mental health trajectories of female migrants, and the factors associated with these trajectories.

Findings reveal that health deteriorates across the migration cycle, with only half of the women maintaining good health throughout. A substantial proportion experienced worsening health, particularly upon return, and nearly half reported negative impacts on mental well-being. These patterns underscore the cumulative toll of migration on women's health.

Traveling solo with children emerged as a critical risk factor, associated with significantly higher odds of deteriorating health. Exposure to violence, use of coyotes, and longer journeys also contributed to poorer outcomes. Conversely, migrating for work and having financial resources were protective, suggesting that agency and economic stability can buffer health risks.

These findings highlight the urgent need for gender-sensitive, trauma-informed health and reintegration services. Addressing the specific vulnerabilities of returned female migrants is essential to ensuring their right to health and supporting sustainable reintegration into their communities.

References

Bhugra, D. (2004), Migration and mental health. Acta Psychiatrica Scandinavica, 109: 243-258. https://doi.org/10.1046/j.0001-690X.2003.00246.x

Bhugra D, Jones P. Migration and mental illness. Advances in Psychiatric Treatment. 2001;7(3):216-222. doi:10.1192/apt.7.3.216

Carroll, H., M. Luzes, L. Freier and M. Bird, (2020) The migration journey and mental health: Evidence from Venezuelan forced migration, SSM - Population Health, Volume 10, 100551, ISSN 2352-8273, https://doi.org/10.1016/j.ssmph.2020.100551.

Galea, S., C.K. Ettman, and M.H. Zaman (eds), Migration and Health (Chicago, IL, 2022; online edn, Chicago Scholarship Online, 18 May 2023), https://doi.org/10.7208/chicago/9780226822495.001.0001, accessed 1 Sept. 2024.

Gaviria, S., R.D. Alarcón, M. Lucio, E. Velásquez, A. Uribe, A. Lozano-Vargas, J. Ordoñez-Mancheno (2024) The Feminization of Migrations: Psychosocial and Mental Health Aspects of Venezuelan Women in Colombia, Revista Colombiana de Psiquiatría, ISSN 0034-7450, https://doi.org/10.1016/j.rcp.2024.04.012.

Idemudia, E., Boehnke, K. (2020). Theoretical Explanations of Migrations, Mental Health, Wellbeing and Posttraumatic Stress Disorder. In: Psychosocial Experiences of African Migrants in Six European Countries. Social Indicators Research Series, vol 81. Springer, Cham. https://doi.org/10.1007/978-3-030-48347-0_4

Rossi, T. (2022). Feminisation Processes and Internal Migration in the Latin America Context: A Case Study. *INTERNATIONAL JOURNAL OF HUMANITIES, SOCIAL SCIENCES AND EDUCATION*, *9*(4), 17-25.

Rueda-Salazar, S; Channon, A; Garnelo-Bibiano, N; Riggirozzi, P. 2024. Resultados de la Encuesta ReGHID sobre las condiciones de salud sexual y reproductiva de las mujeres y adolescentes hondureñas/ salvadoreñas en desplazamiento. Infografía/Informe final de resultados. Organización Internacional para las Migraciones y Universidad de Southampton.

Sweileh, W. (2024), "The impact of social determinants of health on international migrants' health outcomes: a bibliometric analysis", *International Journal of Migration, Health and Social Care*, Vol. 20 No. 4, pp. 634-656. https://doi.org/10.1108/IJMHSC-01-2024-0006

Appendix 1

Appendix 1: Odds Ratios from Mulinomial Model Studying Health Trajectories over three periods of time

Category	***Category***	***GBB***		***GGB***		***BBB***		***Improve***	
		OR	***p-value***	***OR***	***p-value***	***OR***	***p-value***	***OR***	***p-value***
Experience of violence	No	1.00		1.00		1.00		1.00	
	Yes	**1.85**	**0.028**	1.56	0.249	1.79	0.100	2.17	0.189
Travelling companions	Solo	1.00		1.00		1.00		1.00	
	Solo with child	**3.68**	**<0.001**	**9.81**	**<0.001**	**16.36**	**<0.001**	2.83	0.098
	Accompanied without child	1.11	0.582	1.00	0.996	0.60	0.136	0.32	0.133
	Accompanied with child	1.02	0.951	**3.43**	**<0.001**	1.58	0.153	0.93	0.901
Used coyotes	No	1.00		1.00		1.00		1.00	
	Yes	1.33	0.094	0.92	0.739	**1.63**	**0.039**	1.03	0.942
Length of journey	Less than a month	1.00		1.00		1.00		1.00	
	More than a month	1.25	0.252	0.63	0.146	1.18	0.527	0.13	0.052
Migrating for work	No	1.00		1.00		1.00		1.00	
	Yes	0.82	0.530	**0.32**	**0.001**	**0.45**	**0.032**	**0.28**	**0.030**
Migrating for family	No	1.00		1.00		1.00		1.00	
	Yes	1.43	0.077	1.17	0.544	**0.48**	**0.008**	1.81	0.171
Money for journey	No money	1.00		1.00		1.00		1.00	
	Some money	0.61	0.142	**0.35**	**0.003**	**0.54**	**0.045**	**0.32**	**0.020**
	Sufficient money	1.16	0.638	**0.16**	**<0.001**	**0.14**	**<0.001**	**0.11**	**<0.001**