Three Papers on Gendered Inequities of Refugee Women's Health and Well-being

Multi-level factors associated with intimate partner violence experiences, contraceptive use, and economic engagement among women refugees living in Malaysia and Jordan

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Abstract

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Refugee women face several health and well-being risks in conflict settings. Intimate partner violence (IPV), military violence, poor sexual and reproductive health (SRH), early marriage, and unemployment are some of the competing challenges that refugee women face globally. IPV has been associated with mental health problems,[1–3] unwanted pregnancy, pregnancy complications, STIs, and unsafe abortion practices,[4] HIV,[5–8] long term disabilities, chronic pain, and increased mortality and morbidity in refugee settings.[9–12] Likewise, low, inconsistent, and ineffective use of modern spacing methods (MSM) of contraceptive has been linked to unplanned pregnancies, risk of abortions and unsafe abortions, maternal, infant and child morbidity and mortality, human immunodeficiency viruses (HIV), sexually transmitted infections (STIs), and obstetric complications as well as high fertility and poverty. Similarly, low economic engagement and/or unemployment of refugee women has proven to cause significant social, economic and health cost.[13] Refugee women's health and well-being are associated with individual, interpersonal, and societal level factors such as their age, education, social norms around fertility, household size, and age at marriage, contraceptive use, decision-making agency, socio-economic conditions, access to and affordability of health services and care, and acculturation in host countries among other factors. This dissertation examines how some of these multi-level factors influence women's IPV experiences, contraceptive use, and economic engagement in income-generating activities.

The first dissertation paper examines the prevalence of lifetime IPV among a sample of 191 health-care seeking women refugees and asylum seekers in Malaysia. Using Bronfenbrenner's socio-ecological framework and integrated theory of gender and power, I examine multilevel factors associated with lifetime IPV. I also examine the relationship between contraceptive use and lifetime IPV. About one-third (28.30 %) of refugee women reported having experienced lifetime IPV. My hypotheses were partially supported in this study. There were significant associations between marital status, household size, contraceptive use, and food insecurity and lifetime IPV experiences in the bivariate analysis. Age, education, gender-based violence, time spent in Malaysia, and clinic were women were recruited from were not significant in the bivariate analysis. There were no associations between socio-demographic variables like age, education, household size, time spent in Malaysia and the clinic in the unadjusted as well as adjusted models. However, there were significant relationships found between marital status,

contraceptive use, and food insecurity and lifetime IPV experiences in the adjusted model. Widowed, separated, and divorced refugee women were significantly more likely to report lifetime IPV experiences relative to women who reported themselves as married at time of survey [OR: 2.56, 95% CI: 1.09, 6.03] compared to women did not report lifetime IPV experience in the adjusted multivariable logistic model, rejecting my hypothesis. Also, in line with my hypothesis, women who reported using permanent methods of contraceptives were significantly more likely to report lifetime IPV experiences than no contraceptive use [0R: 8.70, 95% CI: 1.95, 38.64] compared to women who did not report lifetime IPV experiences in the adjusted multivariable logistic model. In line with my hypothesis, women who reported themselves as being food insecure were more likely to report lifetime IPV experiences than no food insecurity [OR: 0.40, 95% CI: 0.18, 0.89] compared to women who did not report lifetime IPV experiences in the adjusted multivariable logistic model.

The second dissertation paper examines the prevalence of types of MSM of contraceptive use (female controlled MSM of contraceptives such as intrauterine devices (IUDs), implants, injectables, oral contraceptives (OC); male involved MSM of contraceptives such as condoms; and no contraceptives) among a sample of 307 married Syrian refugee women in Jordan. Using Bronfenbrenner's socio-ecological framework and integrated theory of gender and power, I examine multilevel factors associated with MSM of contraceptive use. I also examine the relationship between early marriage and contraceptive use and the relationship between past-year IPV and contraceptive use. About two-fifth (38.44%) of women reported using female controlled MSM (IUDs, injectables, pills, and implants), a little more than one-tenth (11.73%) reported using male involved contraceptives (male condoms), and half of them (49.84%) reported using no contraceptives (includes natural methods and no forms of contraceptive methods). My hypotheses were partially supported in this study. Socio-demographic variables such as age, head of household, and reproductive health care services received in the past six months were significant in the bivariate association between socio-demographic variables and types of MSM of contraceptive use. And early marriage, education, children under the age of five, past-year IPV experience, Syrian governorate, and time in Jordan (acculturation) were not significant in the bivariate analysis. Women who were married prior to the age of 18 years were significantly more likely to report female controlled MSM of contraceptive use than no MSM of contraceptive use at time of survey [RRR: 1.83, 95% CI: 1.07, 3.13] compared to women who were married past 18 years of age in the adjusted multinomial logistic model. Women with children under the age of five were less likely to report male involved MSM of contraceptive use than no MSM of contraceptive use [RRR: 0.32, 95% CI: 0.12, 0.84] compared to women with children older than five years of age in the adjusted multinomial logistic model. Women who reported reproductive health care services received in the past six months were significantly more likely to report female controlled MSM of contraceptive use than no MSM of contraceptive use [RRR: 2.21, 95% CI: 1.98, 3.80] compared to women who reported not receiving reproductive health care services in the past six months in the adjusted multinomial logistic model. Contrary to my hypothesis, women who reported themselves as head of household were less likely to report

female controlled MSM of contraceptive use than no MSM of contraceptive use [RRR: 0.40, 95% CI: 0.18, 0.89] compared to women who reported their husbands or family members as head of households in the adjusted multinomial logistic model. No associations between socio-demographic variables like age, education, past-year IPV, Syrian governorate, time spent in Jordan and MSM of contraceptive use in the adjusted multinomial logistic regression model were found.

The third dissertation paper examines the prevalence of husbands' no opposition to wives' economic activity among a sample of 344 married Syrian refugee women living in non-camp settings in Jordan. Using Bronfenbrenner's socio-ecological framework and integrated theory of gender and power, I examine multilevel factors associated with husbands' no opposition to wives' economic activity. I also examine the association between no lifetime IPV and husbands' no opposition to wives' economic activity and the association between head of the households and husbands' no opposition to wives' economic activity. I further examine if the relationship between no lifetime IPV and husbands' no opposition to wives' economic activity is moderated by women's agency measured by if they reported themselves as head of the household. About one-third (65.12 %) of women reported husbands' no opposition to wives' economic activity. My hypothesis was partially supported in bivariate and multivariable logistical regression analysis. Age, education, previous work experience, head of the household, no lifetime IPV, and time in Jordan were significant in the bivariate analysis between multi-level/socio-demographic variables and husbands' no opposition to wives' economic activity. Of the less than half (44.77%) of women who did not experience lifetime IPV, more than one-third (70.8 %) of women reported husbands' no opposition to wives' economic activity relative to those who reported lifetime IPV experience (70.78 % versus 29.22 %; *P*=0.05). Of the more than one-fifth (22.97 %) of women who reported themselves as head of household, more than four-fifth (83.54 %) of women reported husbands' no opposition to wives' economic activity relative to those who did not report themselves as head of the households (83.54 % versus 16.46 %; *P*=0.000). In line with my hypothesis, in unadjusted (OR=1.58 95% confidence interval, CI=1.00-2.48) and adjusted (aOR=1.60, 95% CI=0.98-2.563) models, not experiencing lifetime IPV were associated with increased odds of husbands' no opposition to wives' economic activity. Similarly, in both the unadjusted (OR=3.44 95% confidence interval, CI=1.80-6.54) and adjusted (aOR=2.65, 95% CI=1.33-5.29) models, women who reported themselves as head of the households were associated with increased odds of husbands' no opposition to wives' economic activity, supporting my hypothesis. Likewise, in both the unadjusted (OR=7.97 95% confidence interval, CI=2.40-26.40) and adjusted (aOR=5.82, 95% CI=1.66-20.40) models, women who reported no IPV experiences as well as who reported themselves as head of the households were associated with increased odds of husbands' no opposition to wives' economic activity relative to women who reported lifetime IPV experiences and who did not report themselves as the head of the households, supporting my hypothesis. Age and education were also significant in the adjusted model.

These findings affirm that IPV, contraceptive use, and women's economic engagement are serious health and well-being issues. Results fill in the literature gaps on multilevel factors associated with IPV, contraceptive use, and women's economic engagement. The first study contributes to the literature on how contraceptive behavior, refugee women's marital status, and food insecurity, measured as a proxy of poverty influences refugee women's IPV experiences. The second study contributes to the literature on how marrying at an early age, having children in the households, and receiving reproductive health services influences refugee women's contraceptive behavior. Third paper contributes to the literature on how refugee women's lack of IPV experiences and their improved agency/household decision making power influences their economic engagement in the host country. These findings have potential to inform health, sexual and reproductive health, social norms, and economic empowerment interventions. The implications of these findings for social policy, practice, and future research for each paper are discussed in relevant sections as well as in the conclusion section

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Dedication

This dissertation is dedicated to the women who participated in the Malaysian Study and the Women ASPIRE study.

Introduction

This three-paper dissertation examines three issues of gender inequity in the context of forced migration— intimate-partner violence (IPV) among Afghan, Somalian and other refugee women living in Malaysia (paper 1); types of modern spacing methods (MSM) of contraceptive use; and economic engagement among Syrian refugee women living in Jordan (paper 2 and 3).

IPV, contraceptive use and women's economic engagement are gender issues that have serious health and well-being implications. IPV is associated with mental health problems,[1–3] unwanted pregnancy, pregnancy complications, sexually transmitted infections (STIs), and unsafe abortion practices,[4] HIV,[5–8] long term disabilities, chronic pain, and increased mortality and morbidity in refugee and non-refugee settings,[9–12] making it an important gender issue that has social, economic, and public health cost. UN Women estimates one in three women to have experienced IPV globally.[14]

Women's low, inconsistent, and ineffective contraceptive use increases the risks of unplanned pregnancies, unsafe abortions, human immunodeficiency viruses (HIV), STIs, and obstetric complications.[15–18] Unintended pregnancies and gynecological conditions reduces women's quality of life and workforce participation[19] making low, inconsistent, and ineffective contraceptive use another major gender issue. Nearly half of all pregnancies, totaling 121 million each year throughout the world, are unintended, leading to unsafe abortions and maternal deaths.[20]

Low economic engagement and/or unemployment of women is another forms of gender inequity that pose significant social, economic and health cost.[13] Women spend three times the amount of time as men on unpaid care work and are more likely to be poor, less educated, unemployed or employed in informal economies, lack political participation, and are affected by harmful social norms than men globally.[21] These forms of gendered inequities tend to multiply among refugee women in humanitarian settings.

Refugee women are at risk for IPV and poor reproductive health and employment outcomes in conflict settings.[22–30] The refugee population has grown significantly over the past decade and continues to grow. In 2021 there were a total of 89.3 million people forcibly displaced worldwide as a result of persecution, conflict, violence, or human rights violations, of which 27.1 million were refugees, 53.2 million internally displaced people, and 4.6 million asylum seekers.[31] As of September 2022, Malaysia is home to over 183,430 registered refugees and asylum-seekers. Of these, nearly 86% originate from Myanmar, while the rest originate from Pakistan, Yemen, Syria, Somalia, Sri Lanka, Afghanistan, Iraq, and Palestine.[32] The Syrian Arab Republic has witnessed the highest number of refugees (6.8 million) due to the ongoing Syrian Civil War that started in 2011, the majority of whom are women and children.[33] Therefore, the focus of this dissertation is on women refugees living in Malaysia and Jordan.

The rising number of refugees is a policy and practice debate for two reasons— its impacts on host countries where refugees resettle and live and it's impacts on the lives of vulnerable refugees in host countries. In this dissertation I focus on the latter part. Refugees encounter changes in all spheres of life as a result of being a refugee in a new country from housing, health

care, family planning, and social services to employment. The situation demands them to adjust to new life aspirations as they try to adjust to numerous stressors that hinder their lives. The stressors for women refugee multiply as a result of displacement and preexisting gendered inequalities of health and economic opportunity. In some instances, these inequities have been further exacerbated by the COVID-19 pandemic, natural disasters, and rising food and energy prices.[20,34–37]

Dissertation Aims

Although women's IPV experiences, contraceptive use, and economic engagement in humanitarian settings continue to gain attention, little is known about its associated gendered multi-level factors in the context of the displaced Syrian, Afghan, Somalian, and other refugee women. Therefore, I used Malaysian quantitative data conducted in 2018 that examined IPV experiences and healthcare needs of 286 urban refugees and asylum seekers living in Malaysia to study multi-level factors associated with IPV. I also used Women ASPIRE (Advancing Solutions in Policy, Implementation, Research and Engagement for Refugees) dataset, a quantitative study conducted in 2018 that examined gendered inequities of health of 507 Syrian refugee women living in non-camp settings in Jordan to study multi-level factors associated with MSM of contraceptive use and women's economic engagement. I used Bronfenbrenner's socio-ecological framework and integrated theory of gender and power to guide my research questions and hypotheses. Therefore, the three aims of this dissertation are to—

- Examine the prevalence of IPV and multi-level factors associated with IPV among 191 urban refugee and asylum-seeking women in Malaysia;
- Examine the prevalence of all types of contraceptive use and multi-level factors associated with MSM of contraceptive use among 307 clinic attending Syrian refugee women in Jordan; and
- Examine the prevalence of husbands' no opposition to wives' economic activity and multi-level factors associated with husbands' no opposition to wives' economic activity among 344 clinic attending Syrian refugee women in Jordan.

Aim 1: Paper 1 examines the prevalence of lifetime IPV and multilevel factors associated with lifetime IPV among a sample of 191 health-care seeking women refugees and asylum seekers in Malaysia. I examine the association between contraceptive use and lifetime IPV experiences and the association between gender-based violence (GBV) and lifetime IPV experiences. I hypothesized that refugee women in this sample will exhibit high rates lifetime IPV in line with the global studies.[38,39] Second. I hypothesized that younger, married, uneducated, and food insecure refugee women with greater number of household members who have lived shorter period of time in Malaysia will be more likely to experience lifetime physical and sexual IPV compared to older, unmarried, educated, and food secure refugee women with a smaller number of household members who have lived longer period of time in Malaysia. Third, refugee women who are using MSM of contraceptives at present (pills, intrauterine devices (IUDs), injectables, hormonal pills, condoms, and permanent methods) will be more likely to experience lifetime physical and sexual IPV compared to refugee women who are not using contraceptives (natural methods like rhythm or calendar method and withdrawal or no contraceptives). Fourth, I hypothesized that refugee women who have experienced lifetime physical and sexual GBV are

more likely to experience lifetime physical and sexual IPV compared to women who have not experienced lifetime physical and sexual GBV on the road, in a refugee or IDP camp, and/or in another village when in Malaysia.

Aim 2: Paper 2 examines the prevalence of types of MSM of contraceptive use (female controlled MSM of contraceptives such as intrauterine devices (IUDs), implants, injectables, oral contraceptives (OC); male involved MSM of contraceptives such as condoms; and no contraceptives) among a sample of 307 married Syrian refugee women in Jordan. I also examine the association between multi-level (individual, interpersonal and societal) factors and types of MSM of contraceptive use. I examine the association between early marriage and contraceptive use and the association between past-year IPV and contraceptive use. I hypothesized that married Syrian refugee women in the sample will have a lower prevalence of female controlled and male involved MSM of contraceptive use such as IUDs, implants, injectables, oral contraceptives, and condoms compared to general population. I also hypothesized that younger Syrian refugee women reporting early marriage, lower level of education, having children under the age of five, past year physical and sexual IPV experiences, themselves as head of households, greater time spent in Jordan, and reproductive health care services received will be more likely to report female controlled MSM of contraceptive use such as IUDs, pills, implants, and injectables compared to no contraceptive use and less likely to report male involved MSM of contraceptive such as condom use compared to no contraceptive use.

Aim 3: Paper 3 examines the prevalence of husbands' no opposition to wives' economic activity and multi-level factors associated with husbands' no opposition to wives' economic activity among a sample of 344 married Syrian refugee women living in non-camp settings in Jordan. I also examine the association between no lifetime IPV and husbands' no opposition to wives' economic activity. Additionally, I examine the association between head of the households and husbands' no opposition to wives' economic activity. Finally, I examine if the relationship between no lifetime IPV and husbands' no opposition to wives' economic activity is mediated by women's agency measured by if they reported themselves as head of the household. I hypothesized that married Syrian refugee women who are younger, more educated, have previous work experience in Syria, have a smaller number of children, and lived greater number of years in Jordan will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who are older, less educated, have no previous work experience in Syria, has a greater number of children, and have less number of years in Jordan. Second, I hypothesized that married Syrian refugee women who report no lifetime IPV will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who report lifetime IPV. Third, I hypothesized that married Syrian refugee women who report themselves as head of the household will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who do not report themselves as head of the households. Fourth, I also hypothesized that married Syrian refugee women who report no lifetime IPV as well as also report themselves as head of households will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who report lifetime IPV and who do not report themselves as head of households controlling for age, education, previous work experience, number of children, governorate of origin, length of stay in Jordan (acculturation), and food insecurity (poverty).

All three paper uses cross-sectional data and utilizes logistic regression to study multi-level factors associated with IPV, MSM of contraceptive use, and women's economic engagement. Since gendered inequities of women's health and well-being are influenced by social, economic, and physical environment, I examine these three health and well-being outcomes (IPV, MSM of contraceptive use, and women's economic engagement) at individual, interpersonal, and societal level using Bronfenbrenner's ecological framework while integrating theory of gender and power,[40,41] given harmful social and gender norms and expectations and power dynamics lead to poor health and employment outcomes.[42–44]

Therefore, the dissertation consists of three papers on the prevalence of and multi-level factors associated with refugee women's IPV experiences, MSM of contraceptive use, and women's economic engagement— the first one in the context of Afghan, Somalian and other refugees living in Malaysia and the latter two in the context of Syrian refugee women living in Jordan. These papers make scientific contribution by examining three gendered outcomes of refugee women i.e. prevalence rates of IPV experiences, MSM of contraceptive use, and husbands' opposition to wives' economic engagement and by identifying multi-level factors associated with these gendered outcomes, which is important in developing tailored/context-specific interventions in humanitarian settings to address IPV, promote effective and consistent use of MSM of contraceptives, and economically empower refugee women. It also makes scientific contribution with regards to application of theory of gender and power in humanitarian contexts.

Chapter 1: Multilevel factors associated with Intimate partner violence (IPV) among urban refugees and asylum seekers in Malaysia

1.1 Summary

Globally, nearly one in three women is estimated to have experienced violence by an intimate partner making IPV a major public health issue.[1] In this paper, I examine the prevalence of lifetime intimate partner violence (IPV) and multilevel factors associated with lifetime IPV among a sample of 191 health-care seeking women refugees and asylum seekers in Malaysia. I used Bronfenbrenner's socio-ecological framework and integrated theory of gender and power to guide my research questions and hypotheses.

Method: A total of 191 women refugee aged 18+ living in urban areas randomly recruited at three health clinics in Kuala Lumpur between July 2018 to September 2018 using time-based randomization and venue-based were included in the analytical sample. I hypothesized that refugee women in this sample will exhibit high rates lifetime IPV in line with the global studies.[38,39] Second. I hypothesized that younger, married, uneducated, and food insecure refugee women with greater number of household members who have lived shorter period of time in Malaysia will be more likely to experience lifetime physical and sexual IPV compared to older, unmarried, educated, and food secure refugee women with a smaller number of household members who have lived longer period of time in Malaysia. Third, refugee women who are using MSM of contraceptives at present (pills, intrauterine devices (IUDs), injectables, hormonal pills, condoms) will be more likely to experience lifetime physical and sexual IPV compared to refugee women who are not using contraceptives (natural methods like rhythm or calendar

method and withdrawal or no contraceptives). Fourth, I hypothesized that refugee women who have experienced lifetime physical and sexual GBV are more likely to experience lifetime physical and sexual IPV compared to women who have not experienced lifetime physical and sexual GBV on the road, in a refugee or IDP camp, and/or in another village when in Malaysia. Bivariate and multivariable logistic regression was used to examine the hypotheses.

Results: About one-third (28.30 %) of refugee women reported having experienced lifetime IPV whereas more than two-third (71.20%) reported no lifetime experiences of IPV. My hypotheses were partially supported in this study. There were significant associations between marital status, household size, contraceptive use, and food insecurity and lifetime IPV experiences in the bivariate analysis. Age, education, GBV, time spent in Malaysia, and clinic were not significant in the bivariate analysis. There were no associations between socio-demographic variables like age, education, household size, time spent in Malaysia and the clinic in the unadjusted as well as adjusted models. However, there were significant relationships found between marital status, contraceptive use, and food insecurity and lifetime IPV experiences. Widowed, separated, and divorced refugee women were significantly more likely to report lifetime IPV experiences relative to women who reported themselves as married at time of survey [OR: 2.56, 95% CI: 1.09, 6.03] compared to women did not report lifetime IPV experience in the adjusted multivariable logistic model, rejecting my hypothesis. Also, in line with my hypothesis, women who reported using permanent methods of contraceptives were significantly more likely to report lifetime IPV experiences than no contraceptive use [0R: 8.70, 95% CI: 1.95, 38.64] compared to women who did not report lifetime IPV experiences in the adjusted multivariable logistic model. In line with my hypothesis, women who reported themselves as being food insecure were more likely to report lifetime IPV experiences than no food insecurity [OR: 0.40, 95% CI: 0.18, 0.89] compared to women who did not report lifetime IPV experiences in the adjusted multivariable logistic model. To test the hypotheses, I used bivariate and multivariable logistic regression.

Implications: understanding multi-level factors associated with women's IPV experiences can inform multilevel IPV prevention and treatment interventions.

1.2 Introduction

This paper examines the prevalence of lifetime IPV (physical and sexual) and the multilevel factors associated with IPV among a sample of 191 health-care seeking women refugees and asylum seekers in Malaysia. In this paper lifetime IPV is defined as any physical and/or sexual abuse perpetrated by intimate partners or ex-partners ever. I refer refugees and asylum seekers as refugees in this paper.

A multicounty study estimates physical and sexual violence against women refugees in complex emergencies to be between 3 to 52%[39] and 21.4%[38] respectively. IPV pose significant health, social, and economic cost. IPV has been associated with mental health problems,[1–3] unwanted pregnancy, pregnancy complications, STIs, and unsafe abortion practices,[4] HIV,[5–8] long term disabilities, chronic pain, and increased mortality and morbidity in refugee and non-refugee settings.[9–12]

As of September 2022, Malaysia is home to over 183,430 registered refugees and asylum-seekers, of whom 33 percent are women.[32] Nearly 86 percent of refugees in Malaysia originate from Myanmar, while the rest originate from Afghanistan, Somalia, Pakistan, Yemen, Syria, Sri Lanka, Iraq, and Palestine.[32] Since Malaysia is not a signatory to the 1951 Convention on the Status of Refugees, there is no any asylum system, legal policy or administrative framework to regulate and protect refugee status and rights.[45] Therefore, many unregistered refugees are considered illegal migrants and are often at risk of arrest for immigration offences, deportation, and persecution upon return. Refugee women are at higher risks of IPV without legal refugee status and very few economic opportunities with no legal right to work, and limited access to education and proper healthcare. A systematic review on IPV (physical, sexual and psychological) prevalence among Malay women in Malaysia ranged between 4.94 and 35.9%.[46]

Refugee women are disproportionately at risk for physical and sexual IPV during and after the conflict because of exposure to conflict, poverty, unemployment, economic stress, inequitable gender attitudes and norms, changing gender roles, and displacement.[38,39,47–52] Two important factors among several others that are associated with IPV in refugee settings are types of contraceptive use and GBV.

The link between contraceptive use and IPV is cultural, contextual, mixed, and unclear in refugee settings.[53] Researchers have reported low MSM of contraceptive use among refugees globally.[15,25,54–60] Refugee women experience barriers to access and use MSM of contraceptives due to lack of knowledge of MSM of contraceptives and health services, higher cost, fear of side effects, stigma, and harmful gender and norms and thus, are at risks of IPV.[22,55,56,56–58,61–63] Disagreement in preferred type of contraceptive use can be influenced by gender-based power in a sexual relationship, which can lead to IPV.[64] Research shows that Afghan and Rohingya refugee women consider contraceptive use as a matter of shame, and social norms hinder accessing health services without being accompanied by a male partner or relative.[65–67] The link between contraceptive use and IPV among refugees in Malaysia has not been explored.

Researchers have also documented links between GBV and IPV as well.[68–74] GBV is used systematically as a weapon of war in times of conflict.[75,76] GBV rates among Afghan and Somalian women refugees, Rohingya women and other refugees in Malaysia is unknown, however, 79.8% and 72% of Afghan refugee women and Rohingya women living in Iran and Bangladesh experienced some form of GBV (physical, sexual, psychological) respectively.[16,53] Some of the mechanisms through which researchers have understood this association between GBV and IPV are erosion of protective social environment,[77] changes in gender roles and power,[69,78,79] changes in socio-economic status,[80] socially learned behavior of violence,[81] increase in trauma and post-traumatic stress disorder (PTSD),[80,82–85] and women's reduced social support networks.[86] The link between GBV and IPV among refugees in Malaysia has also not been explored.

Therefore, the prevalence of IPV and factors associated with IPV such as MSM of contraceptive use and GBV among Afghan and Somalian women refugees, Rohingya women and other refugees and asylum seekers in Malaysia is an understudied area of research, with most studies focusing on IPV among Malays in Malaysia or refugees in other parts of the world.[46,87] Given the hidden nature of Malaysian population, lack of legal environment for refugees to seek social and health services,[88] and limited literature in this field, there is scant evidence on the prevalence of

IPV and its associated multi-level factors. There is an increased need of understanding of IPV among women refugees as there is low IPV prevention and response awareness among refugees and non-existence of state services to protect the survivors of IPV in Malaysia.[89]

Several theoretical frameworks have been developed to explain women experiences of IPV in refugee and non-refugee settings. I used Bronfenbrenner's socio-ecological framework that helps conceptualize IPV as a multifaceted phenomenon grounded in an interplay among individual, interpersonal and societal characteristics.[41,90] This framework is used to organize research and to establish what factors emerge to be significant predictors of IPV at each level of the social ecology[90] among a sample of 191 health-care seeking women refugees and asylum seekers in Malaysia. It also allows integration and utilization of components of other theories at each structure of the ecology. Hence, I have integrated Robert Connell's theory of gender and power[43] within the socio-ecological framework, which provides a gendered perspective to each system within the ecological framework to guide the aims and hypotheses of the paper. The theory of gender and power suggests there are three major interdependent social structures that characterize the gendered relationships between men and women— the sexual division of labor and power, and the structure of cathexis (social norms).[43] The theory considers broader contexts of women's lives to explain that unequal sexual division of labor, power differentials between men and women, and harmful social/gender norms and culture that are embedded in social institutions (schools, work places, families, relationships, religious institutions, health system, media, social network etc.) dictating lower status of women in societies increase the risks of IPV for women.[43] I study individual (age, education, marital status), interpersonal (household size and contraceptive use), and societal (GBV, food insecurity, time spent in Malaysia (acculturation), and clinic) factors in relation to sexual division of labor, power differentials, and social norms that increases refugee women's vulnerability for IPV.

Therefore, this paper examines the prevalence of lifetime IPV (physical and sexual) and multilevel factors associated with lifetime IPV among a sample of 191 health-care seeking women refugees and asylum seekers in Malaysia using socio-ecological framework and theory of gender and power. I hypothesized that refugee women in this sample will exhibit high rates lifetime IPV in line with the global studies.[38,39] Second. I hypothesized that younger, married, uneducated, and food insecure refugee women with greater number of household members who have lived shorter period of time in Malaysia will be more likely to experience lifetime physical and sexual IPV compared to older, unmarried, educated, and food secure refugee women with a smaller number of household members who have lived longer period of time in Malaysia. Third, I hypothesized that refugee women who are using MSM of contraceptives at present (pills, intrauterine devices (IUDs), injectables, hormonal pills, condoms) will be more likely to experience lifetime physical and sexual IPV compared to refugee women who are not using contraceptives (natural methods like rhythm or calendar method and withdrawal or no contraceptives). Fourth, I hypothesize that refugee women who have experienced lifetime physical and sexual GBV are more likely to experience lifetime physical and sexual IPV compared to women who have not experienced lifetime physical and sexual GBV on the road, in a refugee or IDP camp, and/or in another village when in Malaysia.

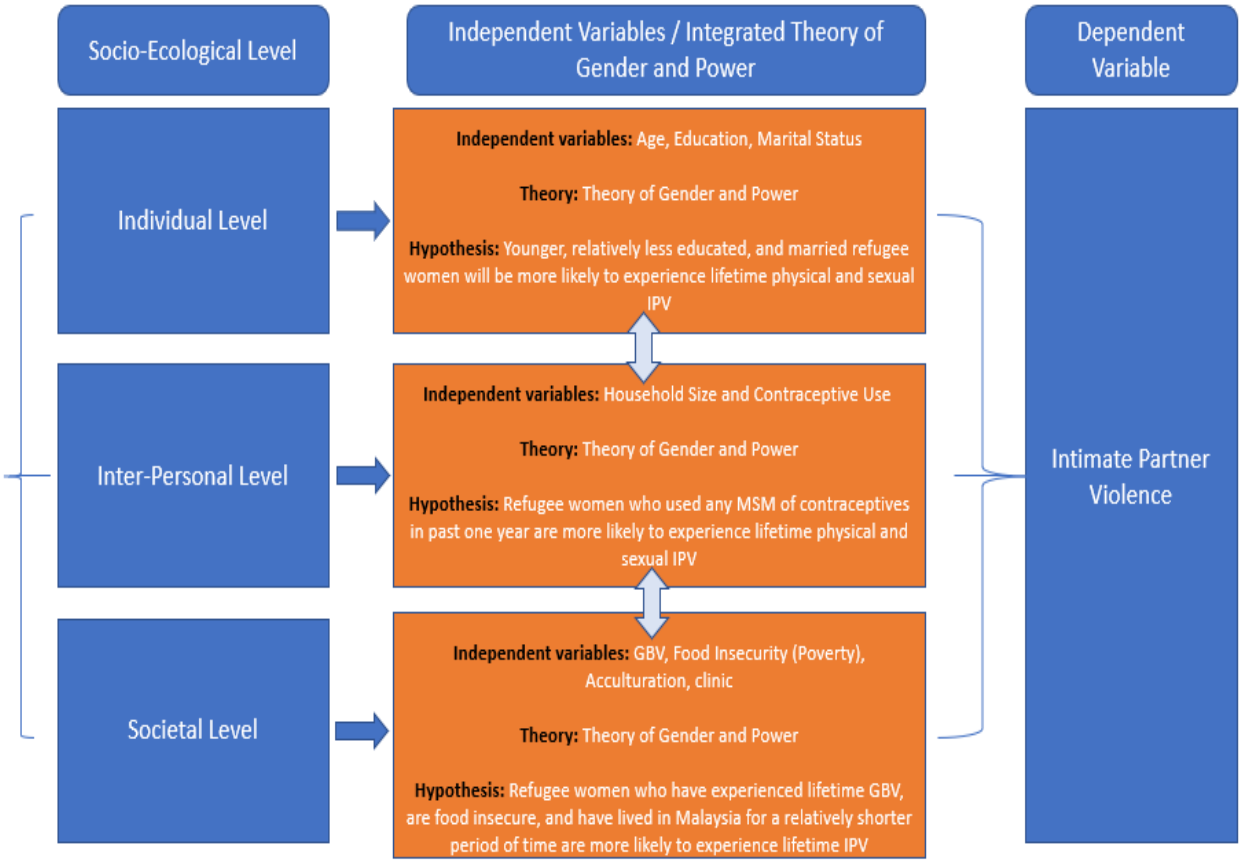
Below is the literature, theories, and conceptual model that has guided my research questions and hypotheses. I organized the literature on multi-level factors associated with IPV among refugee

women following the socio-ecological framework and integrated components of theory of gender and power at each level of the social ecology to guide the hypothesis and findings.

1.3 Theoretical background

This section outlines the literature on multi-level factors associated with IPV among refugee women following the socio-ecological framework while integrating the theory of gender and power to guide the hypothesis and findings.

Figure 1. Conceptual framework for paper 1



Individual factors associated with IPV experiences of refugees and asylum seekers in Malaysia

A number of individual factors are associated with women's IPV experience such as age, education, and marital status. A 2022 systematic review shows majority of the studies in asylum seeking and refugee populations, there is no reported significant association between age and types of IPV.[91] However, some studies show younger refugee and conflict affected women in Syria, Liberia, West Bank and Gaza, and Ethiopia were more likely to experience physical and sexual IPV.[92–95] Also, older women refugees in Cameroon, were less likely to report sexual violence IPV.[96] According to theory of gender and power, being young might suggest having less power and control in sexual relationship that might expose refugee women to risks of IPV.[43]

Education has been found to be a protective factor in both refugee and non-refugee populations against all types of IPV.[93,97–99] A systematic review shows a strong association between education and IPV among refugee populations.[91,100] And low education has been found to be a risk factor for all types of IPV among refugee and non-refugee populations, including Malay women.[46,101–103] There might be an imbalance in power between refugee men and women when refugee women has less education that hinders her negotiating and income generating ability as well as increases her tolerance towards abuse.[43] The structure of sexual division of labor, one of the components of theory of gender and power helps understand that women's lower education, limits their economic potential, leads them to be poorer, and have an unequal position relative to their husband.[43]

Studies show that married women are more likely to be abused than unmarried, single, divorced or widowed in both refugee and non-refugee settings.[92,103–106] This could be because refugee women might fear to and not have the power to leave an abusive relationship out of social and economic insecurity needs as well as social norms that stigmatizes separation from husbands and approves IPV in a marriage.[43] However, among North Korean refugees in South Korea, separated, divorced, or bereaved refugees were more likely to report physical abuse than married refugees in one study.[107] This could be because unmarried, single, divorced or widowed refugee might feel less secure in a relationship and/or their marital status might interact with other factors within and across levels of social ecology such as less education and social norms of acceptance of IPV. Nonetheless, another study in Thai-Burma border found that currently partnered women who were not married were less likely to report IPV than currently married women suggesting that not being married might provide negotiating power in a sexual relationship to refugee women.[108] These mixed findings suggest the importance of marital status in IPV research.

Therefore, to examine individual level factors associated with refugee women's lifetime physical and sexual IPV experiences, I hypothesize younger, uneducated, and married refugee women will be more likely to experience lifetime physical and sexual IPV compared to older, unmarried, and educated refugee women.

Interpersonal factors associated with IPV experiences of refugees and asylum seekers in Malaysia

A number of interpersonal factors are associated with refugee women's IPV experiences. I include household size and women's MSM of contraceptive use in this paper. Among Afghan refugees in Iran, having a large number of children in the household were significantly associated with physical, sexual, psychological, and/or injurious IPV.[53] Women refugees in Thai-Burma border who had at least one living child were 1.4 times more likely to report psychological, physical, and sexual IPV than women with no living children.[108] Even in non-refugee population, physical and sexual IPV was associated with large number of children.[109]

Having children increases the size of the family. Having children might also increase family attachment as well as women's household and caretaking responsibility thereby decreasing women's power to engage in economic opportunity as well as her capacity to negotiate and to leave an abusive relationship. Therefore, the structure of unequal sexual division of labor interacts with the unequal sexual division of power creating rift in relationships. Having many

children could expose women to IPV because of increase in family size and stress led by struggle for economic resources and financial security. Therefore, I hypothesize women with greater number of household members will be more likely to experience physical and sexual IPV compared to women with a smaller number of household members in this sample of refugee women in Malaysia.

Theory of gender and power helps understand the association between contraceptive use and IPV because the type of contraceptive use by couples is influenced by one's power in a sexual relationship as well as social norms. The use of type of MSM of contraceptive entails complex conversations and negotiations between couples as well as men's attitude towards types of contraception, which means there is both the structure of cathexis (social norms) and the structure of division of power are envolved.[43,110] Therefore, the link between contraceptive use and IPV is cultural, contextual, mixed, and unclear in refugee settings.[53] A 2015 systematic review of 12 casual studies on non-refugee populations found that women's IPV experiences was associated with reduced odds of all types of MSM of contraceptive use, including condoms.[111] This could be because of men's negative attitudes towards contraception and the complex conversations required between couples to negotiate contraceptive use.[64] Gender roles and husbands attitude towards and disapproval of certain types of contraceptives have been found to influence contraceptive use among Rohingya refugees in Bangladesh,[16] refugees in Gaza,[112] and Somali migrants in Finland among other refugee populations.[113] For instance, Afghan refugee women in Iran whose husbands opposed contraceptive use were more likely to experience physical, sexual, psychological, and injurious IPV.[53] However, no statistically significant link was found between MSM of contraceptives and IPV in the same study.[53] Among non-refugee population, sexual IPV was positively associated with contraceptive use.[114] In many cultures, contraceptive use is stigmatized and women needed authorization from their husbands before seeking any contraceptive, including in Afghanistan, Somalia, Bangladesh, and Malaysia.[53,65–67,115–117] Therefore, contraceptive use is influenced by social norms, stigma, cultural values, and attitude of family members towards contraceptives.[115]

In light of these findings, to examine interpersonal level factors associated with refugee women's lifetime physical and sexual IPV experiences, I hypothesize that refugee women reporting use of any MSM of contraceptives (pill, intrauterine device (IUD), implants, injectables, emergency hormonal contraception pill, tubal ligation, condoms, and vasectomy) will be more likely to experience lifetime physical and sexual IPV compared to refugee women who do not report use any contraceptives (rhythm or calendar and withdrawal method and no contraceptives) given there is a power imbalance in their sexual relationships.

Societal factors associated with IPV experiences of refugees and asylum seekers in Malaysia

A number of societal factors are associated with refugee women's IPV experiences. I include gender-based violence (GBV), food insecurity (proxy for poverty), and years lived in Malaysia (acculturation), and clinic where they were recruited from in this study.

In this paper, gender-based violence (GBV) is defined as any physical and/or sexual abuse perpetrated by military, paramilitary, police, jail or prison guard, doctor/medical person, religious worker, humanitarian relief worker, neighborhood/community member, fellow refugee/internally displaced persons (IDPs), trafficking agents or anyone other than an intimate

partner that took place on the road, in a refugee or internally displaced person (IDP) camp, or in another village. Researchers have established significant associations between GBV perpetrated by non-intimate members of the community (outsider violence) and IPV perpetrated by intimate partners.

The structure of cathexis, a component of theory of gender and power that dictates social norms and cultural beliefs about the sexual behavior of women can help understand the association between GBV and IPV. Exposure to and acceptance of GBV could normalize men's behavior of violence towards women in the society, which can increase women's risks of experiencing IPV. A study found Congolese refugee women in Rwanda who experienced outsider violence were 11 times more likely to report physical and sexual IPV than women who did not exposed to outsider violence.[118] Another study discovered the association between men's exposure to political violence and sexual IPV among women in occupied Palestinian territory.[119] In Gaza, military operation increased psychological IPV for married women and physical, sexual, psychological, and economic IPV for non-married women.[86] A study in Haiti found displacement increased the probability of women's physical and sexual IPV experiences. Studies in Rwanda, South Sudan, Jordan, Colombia, and Peru show that exposure to civil conflicts normalize and increase the culture of IPV, perpetuates existing inequitable gender and patriarchal norms and attitudes, and change women's status and roles in the society by increasing or decreasing decision making power in households, thereby giving rise to IPV.[68–74] Social norms of acceptability of IPV in case of Afghanistan, Somalia, and Myanmar from where Afghan and Somalian women refugees and Rohingya women originate from as well as norms in Malaysia suggests normalization of the phenomenon of IPV.[120–122] Therefore, I hypothesize that refugee women who have experienced lifetime physical and sexual GBV are more likely to experience lifetime physical and sexual IPV compared to women who have not experienced lifetime physical and sexual GBV on the road, in a refugee or IDP camp, and/or in another village when in Malaysia.

Families' exposure to poverty is considered as women's exposure to IPV.[43] Several studies show that poverty and economic stress are risk factors for IPV in refugee and non-refugee settings, including Malaysia.[46,87,123–125] Food insecurity resulting from economic insecurity, violence, and displacement may contribute to IPV outcomes through stress and poor mental health.[24,126] Association between poverty and IPV has been well documented in studies from conflict hit countries like Colombia,[48,127] Sierra Leone,[128] Liberia,[128] Haiti,[129] South Sudan,[68] and Uganda.[130] In some instances, higher socioeconomic status may be a protective factor against some types of IPV and not all. For example, in India, higher socioeconomic status protected women against physical but not sexual IPV.[106] Similarly, low-income North Korean refugees in South Korea were more likely to experience two or more forms of abuse (physical, sexual, emotional, and economic) than those who did not.[107] Therefore, I hypothesize that refugee women who are food insecure will be more likely to experience IPV compared to women who are not food insecure.

The association between acculturation and IPV is mixed.[131,132] Increased accessibility to health information, knowledge, resources, and social networks over time as well as egalitarian gender norms in host countries could empower refugee women and increase help seeking behavior,[133,134] which could prevent refugee women from experiencing IPV. The process of resettling in the host country could also destabilize gender roles and trigger IPV as in cases of women refugees in South Sudan, Kenya and Iraq.[135] North Korean refugees in South Korea were less likely to

experience physical, sexual, and emotional IPV with higher levels of acculturation.[107] To examine societal level factors associated with refugee women's lifetime physical and sexual IPV experiences, I hypothesize that women refugees who have lived in Malaysia for a less amount of time will be more likely to experience lifetime physical and sexual IPV compared to refugee women who have lived for a greater amount of time.

1.4 Methods

Study Design and Sample

A total of 286 urban women and men refugee and asylum-seekers aged 18+ living in urban areas were randomly selected using time-based randomization and venue-based recruitment at three health clinics in Kuala Lumpur between July 2018 to September 2018 to assess health needs and identify barriers to care. Participants were eligible if they identified as a refugee or asylum-seeker living in Malaysia and if they were 18 years or older. Surveys were interviewer-administered by trained community-based research assistants in the participant's native language and lasted approximately 45-60 minutes. Surveys were completed in a private area of the clinic or the community. This study received ethics approval from Yale University and a rapid review by ethics experts in Malaysia.

Research questions and hypotheses

The paper aims to examine the prevalence of lifetime IPV experiences and the multi-level (individual, interpersonal and societal) factors associated with lifetime IPV experiences.

I hypothesized that refugee women in this sample will exhibit high rates lifetime IPV in line with the global studies.[38,39] Second. I hypothesized that younger, married, uneducated, and food insecure refugee women with greater number of household members who have lived shorter period of time in Malaysia will be more likely to experience lifetime physical and sexual IPV compared to older, unmarried, educated, and food secure refugee women with a smaller number of household members who have lived longer period of time in Malaysia. Third, I hypothesized that refugee women who are using MSM of contraceptives at present (pills, intrauterine devices (IUDs), injectables, hormonal pills, condoms, and permanent methods) will be more likely to experience lifetime physical and sexual IPV compared to refugee women who are not using contraceptives (natural methods like rhythm or calendar method and withdrawal or no contraceptives). Fourth, I hypothesize that refugee women who have experienced lifetime physical and sexual GBV are more likely to experience lifetime physical and sexual IPV compared to women who have not experienced lifetime physical and sexual GBV on the road, in a refugee or IDP camp, and/or in another village when in Malaysia.

Power Analysis

Power analysis helped me determine what sample size will ensure highest probability that I correctly reject the null hypothesis that there is no difference between the two groups. I conducted post-hoc power analysis with a power calculation tool based on the Wald test and algorithms described in Demidenko (2007) and Demidenko (2008).[136,137] I used a significance

level of 0.05, fixed power at 0.80, and a sample size of 191 to yield a detectable (unadjusted) odds ratio of 2.35.

Measurement

Dependent variable: Prevalence of lifetime IPV (physical and/or sexual violence) is a yes and no dummy variable measured using conflict tactic scale (CTS). Women were asked these following yes and no questions— Has any of your partners or ex-partners ever threatened to hurt you with a weapon or themselves; has any of your partners or ex-partners ever slapped you, twisted your arm, hit you with a fist or something else, pushed you down or kicked you, or choked you; has any of your partners or ex-partners ever threatened to hurt you or used force to make you have sex with him when you did not want to? Affirmative endorsements of physical and/or sexual IPV items were dichotomized as having experienced lifetime physical and/or sexual IPV. The intimate partner was defined as the current or ex-partner male spouse of the woman.

Independent variables

Individual factors associated with married refugee women's lifetime IPV experiences are age, education, and marital status. Age is a continuous variable coded in years. Level of education is a yes and no dummy variable. Women who have completed primary, secondary, and higher education were coded as yes to education. Marital status is a three categorical variable— married; unmarried; and others. Others includes widowed, separated, and divorced.

Interpersonal factors associated with refugee women's lifetime IPV experiences are contraceptive use and household size. Women were asked the following question— Which of the following birth control methods do you (your partner use)? The options were— the pill (oral contraception), IUD (loop), condom, implant, injectable (Depo-Provera), emergency hormonal contraception ('morning after pill'), tubal ligation, vasectomy (male sterilization), rhythm or calendar method, and withdrawal method. Contraceptive use is a three categorical variable— MSM, permanent methods, and no contraceptive use. MSM includes women who reported using pills, IUDs, implants, hormonal pills, injectables, or condoms. Permanent contraceptive method includes tubal ligation or vasectomy. And no contraceptive use incudes natural/ineffective methods like rhythm/calendar method or withdrawal or no contraceptive use at all. Household size is a continuous variable.

Societal factors associated with refugee women's lifetime IPV experiences are lifetime GBV, food insecurity, time spent in Malaysia, clinic where the refugee women were recruited. Lifetime GBV (Physical and/or sexual violence) is a yes and no dummy variable. Refugee women were asked these following yes and no questions—Have you ever been physically hurt, threatened, detained, or subjected to unwanted sexual attention by someone outside your family; were you ever physically hurt, such as slapped, hit, choked, beaten or kicked; were you ever threatened with a weapon of any kind, were you ever detained against your will; were you ever forced to remove or stripped of your clothing; were you ever subjected to improper sexual comments; were you ever subjected to unwanted kissing or touching on sexual parts of your body; and were you ever forced or threatened with harm to make you give or receive oral sex or have vaginal or anal sex? Affirmative endorsements of physical and/or sexual GBV items were dichotomized as

having experienced physical and/or sexual GBV. GBV is defined as any physical and/or sexual abuse perpetrated by military, paramilitary, police, jail or prison guard, doctor/medical person, religious worker, humanitarian relief worker, neighborhood/community member, fellow refugee/internally displaced persons (IDPs), trafficking agents or anyone other than an intimate partner that took place on the road, in a refugee or internally displaced person (IDP) camp, or in another village. Food insecurity is also a yes and no dummy variable. Women were asked in the last 12 months, did you or anyone in your household ever cut the size of your meals or skip meals because there wasn't enough money for food; and in the last 12 months, did you (or other adults in your household) ever not eat for a whole day because there wasn't enough money for food? Affirmative endorsements to any of these items were dichotomized as having experienced food insecurity. Years in Malaysia (acculturation) is a continuous variable in years. Clinic where women were recruited for the study is a three categorical variable.

Data Analysis

I used univariate statistics (i.e. frequency distributions, measures of central tendency, and standard deviation) for the analytical sample (N=191) to examine the prevalence of lifetime IPV experiences in the sample and for all variables (Aim 1). I tested the hypothesis that refugee women in this sample will exhibit high rates lifetime IPV in line with the global studies.[38,39]

I then performed bivariate statistical analyses to examine the association between independent variables such as age, education, marital status, household size, contraceptive use, GBV, food insecurity, time spent in Malaysia (acculturation), and the clinic and the dependent variable "lifetime IPV experiences." I conducted bivariate analysis using Chi-squared tests or Fisher's exact test to calculate significant differences in categorical variables between groups, while I used t-tests to calculate significant mean differences for binary variables between two groups. All reported p-values are 2-tailed with statistical significance set at .05.

I then performed adjusted multivariable logistic regressions to examine the association between individual, interpersonal, and societal level variables and the dependent variable "lifetime IPV experiences" among clinic attending married Syrian refugee women living in non-camp settings in Jordan (Aim 2). For the adjusted multivariable logistic regression analysis, the selected multi-level variables include age, education, marital status, household size, contraceptive use, food insecurity, time spent in Malaysia (acculturation), and the clinic.

I tested the hypothesis that younger, married, uneducated, and food insecure refugee women with greater number of household members who have lived shorter period of time in Malaysia will be more likely to experience lifetime physical and sexual IPV compared to older, unmarried, educated, and food secure refugee women with a smaller number of household members who have lived longer period of time in Malaysia. I also tested the hypothesis that refugee women who are using MSM of contraceptives at present (pills, intrauterine devices (IUDs), injectables, hormonal pills, condoms, and permanent methods) will be more likely to experience lifetime physical and sexual IPV compared to refugee women who are not using contraceptives (natural methods like rhythm or calendar method and withdrawal or no contraceptives). I could not test the hypothesis that refugee women who have experienced lifetime physical and sexual GBV are more likely to experience lifetime physical and sexual IPV compared to women who have not

experienced lifetime physical and sexual GBV on the road, in a refugee or IDP camp, and/or in another village when in Malaysia because of the small sample size. The multicollinearity test was conducted prior to using logistic regressions. Odds ratios (OR) with a 95% confidence interval (CI) was evaluated in the bivariate and multivariable logistic regression analyses. All analyses were completed using STATA (version 16.0).

1.5 Results

Table 1.1. presents characteristics of women in the sample (191). The sample included 191 clinic attending refugee women living in urban areas in Malaysia with a mean age of 33.85 years (SD: 8.76, range: 18-57) and an average household size of 5.20 (SD: 2.42). Less than half of refugee women (43.98%) in the sample reported having completed their primary, secondary and higher education whereas 56.02% of them reported being uneducated. A little less than three-fifth (58.64%) of refugee women reported being married whereas 14.66% reported being unmarried and more than one-fourth (26.70%) reported being widowed, separated, or divorced. About one-third (28.30 %) of refugee women reported having experienced lifetime IPV whereas more than two-third (71.20%) reported no lifetime experiences of IPV. Less than one-tenth (7.33%) of refugee women reported having experienced lifetime GBV whereas majority (92.267%) reported no lifetime experiences of GVB. About two-fifth (38.22%) of women reported using MSM of contraceptives (pills, IUDs, injectables, emergency hormonal pills, implants, and condoms), a little more than one-tenth reporting permanent method of contraceptives (tubal legation and vasectomy), and more than half of them (56.02%) reported using no contraceptive use (includes natural methods like rhythm or withdrawal and no forms of contraceptive methods). About three-forth (74.35%) reported being food insecure whereas one-forth (25.65%) reported not being food insecure. Two-fifth (40.84%) of refugee women reported originating from Afghanistan, about one-third from Myanmar, 16.75% from Somalia and one-tenth from Pakistan, Yemen, Syria, Sri Lanka, Iraq, and Palestine. Average years lived in Malaysia was 5.84 years (SD: 3.77, range: 0-23). About half of refugee women (45.03%) were from clinic A, 15.71% from clinic B, and about two-fifth (39.27) from clinic C.

Table 1. 1. Sample characteristics among refugee women living in Malaysia

Variables	**Total = 191** **N (%) or Mean (SD)**
Age (18-57 years)	33.85 (8.76)
Education	
Yes	84 (43.98)
No	107 (56.02)
Marital status	
Married	112 (58.64)
Unmarried	28 (14.66)
Widowed/separated/divorced	51 (26.70)
Widowed [18 (9.42)]	
Separated [16 (8.38)]	
Divorced 16 [(8.38)]	
Marital status	
Married	112 (58.64)

Unmarried/widowed/separated/divorced	79 (41.36)
Household size	5.20 (2.42)
Lifetime IPV	
Yes	55 (28.30)
No	136 (71.20)
Military violence (GBV)	
Yes	14 (7.33)
No	177 (92.67)
Types of contraceptive use	
MSM (pill, IUD, injectable, hormonal pills,	73 (38.22)
and condom)	11 (5.76)
Permanent methods (tubal ligation and vasectomy)	107 (56.02)
Natural (rhythm or withdrawal) or no contraceptives	
Food insecurity	
Yes	142 (74.35)
No	49 (25.65)
Country of Origin	
Afghanistan	78 (40.84)
Myanmar	62 (32.46)
Somalia	32 (16.75)
Others (Pakistan, Yemen, Syria, Sri Lanka,	19 (9.9)
Iraq, and Palestine)	
Time in Malaysia (in years)	5.84 (3.77)
Clinic location	
Tzu Chi Clinic	86 (45.03)
ACTS Clinic	30 (15.71)
MSRI Clinic	75 (39.27)

Table 1.2. presents bivariate association between multi-level socio-demographic variables (age, education, marital status, household size, contraceptive use, GBV, food insecurity, time spent in Malaysia (acculturation), and the clinic) and the dependent variable “lifetime IPV experiences”. Variables such as marital status, household size, contraceptive use, and food insecurity were significant in the bivariate analysis. My hypotheses were partially supported.

Age and education were not significant in the bivariate analysis and this association remained in the adjusted model rejecting my hypothesis.

Women who reported lifetime IPV experiences (28.80%), less than two-third (61.82%) were married, one woman was unmarried and more than two-third (36.36) were widowed, separated, or divorced. Of women who did not report lifetime IPV experiences (71.20%), more than half (57.35) were married, one-fifth (19.85) were unmarried, and more than one-fifth (22.79) were

widowed, separated, or divorced (p=0.003). This association sustained in the multivariable logistic regression. My hypothesis was partially supported.

Women who reported lifetime IPV experiences had a slightly smaller household size compared to women who did not report lifetime IPV experiences (5.17 versus 5.22, p=0.01). This association did not sustain in the multivariable logistic regression and my hypothesis was rejected.

Of women who reported lifetime IPV experiences, about half of them (47.27%) reported using MSM, more than one-tenth reported using permanent methods of contraceptives, and two-fifth (40%) reported using no contraceptives. Of women who did not report lifetime IPV experiences, one-third (34.56%) reported using MSM, only four women (2.94%) reported using permanent methods of contraceptives, and about two-third (62.50%) reported using no contraceptives (p=0.003). This association sustained in the multivariable logistic regression. My hypothesis was supported in the bivariate analysis but not in the multivariable logistic regression.

Of women who reported lifetime IPV experiences, only three of women refugees reported experiencing GBV and majority (94.55) of them did not. Of women who did not report lifetime IPV experiences, about one-tenth (8.90%) reported experiences GBV whereas majority (91.91%) did not, rejecting my hypothesis. Because of the small sample size, GBV was not included in the multivariable logistic regression.

Of women who reported lifetime IPV experiences, majority (89.09%) reported being food insecure and one-tenth (10.91%) reported being not food insecure. Of women who did not report lifetime IPV experiences, more than two-third (68.38%) reported being food insecure and about one-third (31.62%) reported being not food insecure (p=0.003), supporting my hypothesis.

Women who reported lifetime IPV experiences reported living in Malaysia for slightly lesser time than women who reported lifetime IPV experiences (5.70 versus 5.90 years, p=0.902), rejecting my hypothesis. This association was insignificant in the multivariable logistic regression as well.

Of women who reported lifetime IPV experiences, half of them (50.91%) were recruited from clinic A, 16.36% from clinic B, and about one-third (32.73%) from clinic C. Of women who did not report lifetime IPV experiences, more than two-fifth (42.65%) were recruited from clinic A, 15.44% from clinic B, and more than two-fifth (41.91%) from clinic C.

Table 1. 2. Bivariate association between IPV and socio-demographic factors among refugee women living in Malaysia

Variables	**N = 191**	**IPV = 55 (28.80) (*N*=) x (SD) or n (%)[a]**	**No IPV = 136 (71.20) (*N*=) x (SD) or n (%)[a]**	**P-Value**
Age (18-57 years)	33.85 (8.76)	34.42 (8.46)	33.62 (8.90)	0.659
Education				
Yes	84 (43.98)	20 (36.36)	64 (47.06)	0.178
No	107 (56.02)	3 (63.64)	72 (52.94)	
Marital status				**0.003****
Married	112 (58.64)	34 (61.82)	78 (57.35)	
Unmarried	28 (14.66)	1 (1.82)	27 (19.85)	
Widowed/separated/divorced	51 (26.70)	20 (36.36)	31 (22.79)	
Household size	5.20 (2.42)	5.17 (1.94)	5.22 (2.60)	**0.016****
Military violence (GBV)				
Yes	14 (7.33)	3 (5.45)	11 (8.09)	0.527
No	177 (92.67)	52 (94.55)	125 (91.91)	
Types of contraceptive use				**0.003****
MSM	73 (38.22)	26 (47.27)	47 (34.56)	
Permanent methods	11 (5.76)	7 (12.73)	4 (2.94)	
Natural or no contraceptives	107 (56.02)	22 (40.00)	85 (62.50)	
Food insecurity				**0.003****
Yes	142 (74.35)	49 (89.09)	93 (68.38)	
No	49 (25.65)	6 (10.91)	43 (31.62)	
Time in Malaysia (in years)	5.84 (3.77)	5.70 (3.75)	5.90 (3.80)	0.902
Clinic location				
Tzu Chi Clinic	86 (45.03)	28 (50.91)	58 (42.65)	0.483
ACTS Clinic	30 (15.71)	9 (16.36)	21 (15.44)	
MSRI Clinic	75 (39.27)	18 (32.73)	57 (41.91)	

Table 1.3. presents adjusted and unadjusted multivariable logistic regressions of the associations between multi-level socio-demographic variables (age, education, marital status, household size, contraceptive use, food insecurity, time spent in Malaysia (acculturation), and the clinic) and the dependent variable “lifetime IPV experiences”.

My hypothesis was partially supported. There were no associations between socio-demographic variables like age, education, household size, time spent in Malaysia and the clinic in the unadjusted as well as adjusted models. However, there were significant relationships found between marital status, contraceptive use, and food insecurity and lifetime IPV experiences.

Widowed, separated, and divorced refugee women were significantly more likely to report lifetime IPV experiences relative to women who reported themselves as married at time of survey [OR: 2.56, 95% CI: 1.09, 6.03] compared to women did not report lifetime IPV experience in the adjusted multivariable logistic model. My hypothesis was rejected as I had hypothesized that married refugee women will be more likely to experience lifetime IPV compared to unmarried refugee women.

In line with my hypothesis, women who reported using permanent methods of contraceptives were significantly more likely to report lifetime IPV experiences than no contraceptive use [0R: 8.70, 95% CI: 1.95, 38.64] compared to women who did not report lifetime IPV experiences in the adjusted multivariable logistic model.

In line with my hypothesis, women who reported themselves as being food insecure were more likely to report lifetime IPV experiences than no food insecurity [RRR: 0.40, 95% CI: 0.18, 0.89] compared to women who did not report lifetime IPV experiences in the adjusted multivariable logistic model.

Table 1. 3. Adjusted and unadjusted multivariable logistic regression: association between socio-demographic factors and IPV ever among refugee women living in Malaysia

Variables	**N (%)**	**OR (95% CI)**	**AOR[A] (95% CI)**
Age (18-57 years)	191 (100.00)	1.01 (0.95, 1.04)	1.00 (0.96, 1.05)
Education			
Yes	84 (43.98)	0.64 (0.34, 1.25)	0.90 (0.43, 1.88)
No (Reference category)	107 (56.02)		
Marital status			
Married (Reference category)	112 (58.64)		
Unmarried	28 (14.66)	**0.85 (0.11, 0.65)****	0.19 (0.22, 1.62)
Widowed/separated/divorced	51 (26.70)	1.48 (0.74, 2.96)	**2.56 (1.09, 6.03)***
Household size	5.20 (2.42)	0.99 (0.87, 1.13)	1.01 (0.87, 1.62)
Types of contraceptive use			
MSM	73 (38.22)	**2.11 (1.08, 4.14)***	1.88 (0.80, 4.44)
Permanent methods	11 (5.76)	**6.73 (1.80,**	**8.70 (1.95,**
Natural or no contraceptives (Reference category)	107 (56.02)	**25.11)****	**38.64)****
Food insecurity			
Yes	142 (74.35)	**3.77 (1.50, 9.49)****	**3.70 (1.30,**
No (Reference category)	49 (25.65)		**10.52)****
Time in Malaysia (in years)	5.84 (3.77)	0.95 (0.90, 1.07)	0.98 (0.89, 1.07)
Clinic location			
Tzu Chi Clinic (Reference category)	86 (45.03)		
ACTS Clinic	30 (15.71)	0.89 (0.36, 2.19)	0.84 (0.31, 2.27)
MSRI Clinic	75 (39.27)	0.65 (0.33, 1.31)	0.89 (0.40, 1,99)

[A] Adjusted for age, education, marital status, household size, contraceptive use, food insecurity, time spent in Malaysia, and clinic

*P<0.05, IPV, intimate partner violence; OR, odds ratio; CI, confidence interval

1.6 Limitations

First, the study uses cross-sectional data, which restricts the ability to infer causal directions underlying the associations between socio-demographic variables and lifetime physical and

sexual IPV. Second, the sample may not be representative of the entire refugee and asylum-seeking population since the sample was recruited from the patient population. Therefore, the findings cannot be generalized. However, they are representative of care-seeking populations. Third, even though men represent 67% of registered refugees and asylum-seekers in Malaysia,[138] the sample does not include men. Fourth, the study examines IPV in the context of heterosexual relationships. Fifth, the study cannot explore the severity of IPV, identity of the perpetrators, and the places where women refugees experienced IPV due to smaller cell size, a limitation of the CTS. Sixth, the study lacks information regarding women who were sexually active or not, which to some degree compromises the examination of the association between contraceptive use and IPV. Also, the relationship between GBV and IPV could not be studied because of the small sample size.

Discussion

The findings of paper one shows that 28.30 % of Afghan, Somalian, and other refugee women living in Malaysia reported having experienced lifetime physical and sexual IPV. The prevalence rates of IPV vary across refugee populations globally due to non-uniform reporting, research designs, measurements, and definitions used in the study. A systematic review estimates IPV among refugee women in complex emergencies to be between 3 to 52%[39] and the IPV prevalence rates found in paper one fall within the range of 3 and 52%. Similarly, IPV among Somali women refugees in Kenya, refugee women in Shimelba refugee camp in northern Ethiopia, North Korean refugees in South Korea, Palestine refugees in Jordan, refugees in East Cameroon, Afghan refugee women in Iran, and Congolese refugees in Rwanda is 47%, 25.5%, 56.1%, 78%, 40.8%, 79.8%, and 49% respectively.[53,96,97,139–143]

The findings of paper one also shed light on how marital status, household size, contraceptive use, and food insecurity influence refugee women's IPV experiences. Widowed, separated, and divorced refugee women were more likely to report lifetime IPV experiences compared to women who reported themselves as married at time of survey. These findings are consistent with rates of IPV conducted among women. Among North Korean refugee women in South Korea, separated, divorced, and bereaved refugees were more likely to report physical abuse than married refugees.[107] Not being in a marital union might provide negotiating power in a sexual relationship to refugee women in this context.[108]

In addition, women who reported using permanent methods of contraceptives at present were more likely to report lifetime IPV experiences than women who reported no contraceptive use. The results is against a 2015 systematic review of 12 casual studies on non-refugee populations found that women's IPV experiences was associated with reduced odds of all types of MSM of contraceptive use, including condoms.[111] There is evidence that Afghan refugee women in Iran whose husbands opposed contraceptive use were more likely to experience physical, sexual, psychological, and injurious IPV.[53] It could be that since men oppose contraceptive use in Afghan and Somalian culture that women chose permanent methods of contraceptives. In the study, women who reported themselves as being food insecure were more likely to report lifetime IPV experiences compared to women who reported no food insecurity [OR: 0.40, 95% CI: 0.18, 0.89]. Increased probability of experiencing IPV among food insecure women may signal the vitality of poverty reduction measures to decrease the stressors among couples in humanitarian contexts.

1.7 Implications for social policy and practice

IPV are public health issues that costs about $1.5 trillion to the society, which is about 2 percent of the global gross domestic product (GDP).[144,145] The prevalence rates of IPV among refugees will not only allow cross comparisons of IPV rates among refugee populations worldwide for researchers and global actors but also, signify the severity of public health issue to the policy makers, international organizations, social workers, and the government of Malaysia. This might help advocate for a legal and administrative structure in place for refugees to seek health and IPV services.

Since the linkage between MSM of contraceptive use and IPV is unclear in refugee settings, the findings help shed light on their existing associations.[53,78] Contrary to my hypothesis, women who use permanent methods of contraceptives are more likely to experience lifetime IPV compared to women who do not use any MSM of contraceptives, signaling the importance of types of MSM of contraceptive use in a sexual relationship. Also contrary to my hypothesis, in this study, widowed, separated, and divorced refugee women were significantly more likely to report lifetime IPV experiences compared to unmarried women, emphasizing importance of women's marital status in the society. A better understanding of refugee women's socio-demographics and IPV in light of gender and social norms have important implications for the integration of risk informed IPV prevention and treatment and access to sexual and reproductive health (SRH) services in humanitarian programs and services in conflict settings.[115]

The findings may support the development of culturally appropriate interventions related to IPV. Many programs and services in the humanitarian sector are designed to address multiple and immediate health and economic outcomes.[146] There is lack of effective strategies to address IPV and food insecurity among refugees.[147] This study provides a nuanced understanding of how expanding refugee women's reproductive freedom and addressing food insecurity can influence her IPV experiences. In line with my hypothesis, women who report food insecure are more likely to experience IPV compared to women who are not food insecure, which signals the vitality of improving economic conditions of women refugees. The findings might indicate a need for enhanced protection and intervention programs targeted to specific populations in conflict-affected settings. Previous research shows refugees and asylum seekers in Malaysia face financial, language and cultural challenges in seeking health services.[148] The findings might reinforces the need to continue investing in prevention of IPV by addressing refugee women's challenges in resettling and seeking health services.[46,87,123–125]

Implications for Future Research

There are limited studies on IPV among refugees in Malaysia. There is a need of a systematic review for studies on association between MSM of contraceptive use and IPV. More research is also needed to understand the mechanisms through which these factors increase or decrease the risk of IPV across different contexts.[86] With regard to measurements, most IPV studies use Revised Conflict Tactics Scales,[149] Abuse Assessment Screen,[150] and adapted WHO questionnaire on IPV.[97,140,142,151] Future studies could use comprehensive and multi-dimensional instruments to assess types, patterns, and severity of violence.

As far as data and methods are concerned in IPV research, the prevalence studies have employed community-based cross-sectional data,[140] population-based data,[97] nationwide surveys,[151] and random cluster survey[96] simple random sampling,[140] multi-stage probability-based sampling,[97] and convenience sample.[142] Usually these studies have used descriptive, bivariate and multivariable logistic regression analyses and moderated regression analysis.[97,140,142,151,152] Most studies are cross-sectional, which weakens inference about the causal effect of MSM and socio-demographic variables on women's IPV experiences.[111] There are no known population-based studies that assess IPV prevalence among refugee women in Malaysia. This study also uses cross sectional data. There is a need for longitudinal research and experimental designs that can better establish temporality and inform practice.[124] Additional longitudinal research, experimental designs and approval of protocols for a systematic review on the causal factors of IPV in varied contexts and cultures may help understand the IPV phenomenon, which will then help discover unknown mediators to inform theory and evidence-based interventions.[87,124] With regard to this study, if there was additional data on GBV, I would have studies factors associated with GBV as well. Additionally, if the datasets had women's husbands' socio-demographic, health, and employment data, I would have included those variables in the analysis for nuanced understanding of sexual division of labor and power in the household. As there are many unregistered refugees in Malaysia, studying this population is hard. Although refugees from several countries are included in the analysis, there is a need for future studies to explore the geographic and social distribution of different types of violence across communities to inform targeted community interventions and policies.

The strength of IPV interventions depends on thorough analysis of risk and protective factors associated with IPV. Recognizing and preventing post conflict IPV is important in supporting long-term recovery in post conflict settings.[153] Successful interventions are those that address the status of women in their society, in interpersonal relationships, and in communities.[154] Educational programmes and economic empowerment, family planning, SRH, and IPV intervention programs, should consider women's experiences of IPV in a holistic manner and in a way that does not further put all the burden on women to improve their situations. Thus, analysis like the one in this study should inform interventions in a way that brings all the stakeholders (institutions, community, family members) together as IPV is a societal problem.

Chapter 2: Multi-level factors associated with Modern Spacing Methods (MSM) of contraceptive use among clinic attending married Syrian refugee women in Jordan

2.1 Summary

Even though global access and usage of modern spacing methods (MSM) have increased exponentially in the last few decades, there still remains a gap in MSM of contraceptive use worldwide, particularly among refugee women in humanitarian settings.[155,156] In this paper, I examine the prevalence of types of MSM of contraceptive use (female controlled MSM of contraceptives such as intrauterine devices (IUDs), implants, injectables, oral contraceptives (OC); male involved MSM of contraceptives such as condoms; and no contraceptives) among a sample of 307 married Syrian refugee women in Jordan. I also examine the association between multi-level (individual, interpersonal and societal) factors and types of MSM of contraceptive

use. In this paper, I used Bronfenbrenner's socio-ecological framework and integrated theory of gender and power to guide my research questions and hypotheses.

Method: A total of 307 married Syrian refugee women who recruited from health clinics through systematic sampling between April and November 2018 for the Project Advancing Solutions in Policy, Implementation, Research and Engagement for Refugees (ASPIRE) were included in the analytical sample. I hypothesized that married Syrian refugee women in the sample will have a lower prevalence of female controlled and male involved MSM of contraceptive use such as IUDs, implants, injectables, oral contraceptives, and condoms compared to general population. I also hypothesized that younger Syrian refugee women reporting early marriage, lower level of education, having children under the age of five, past year physical and sexual IPV experiences, themselves as head of households, greater time spent in Jordan, and reproductive health care services received will be more likely to report female controlled MSM of contraceptive use such as IUDs, pills, implants, and injectables compared to no contraceptive use and less likely to report male involved MSM of contraceptive such as condom use compared to no contraceptive use. Bivariate and multinomial logistic regression was used to examine the hypotheses.

Results: About two-fifth (38.44%) of women reported using female controlled MSM (IUDs, injectables, pills, and implants), a little more than one-tenth (11.73%) reported using male involved contraceptives (male condoms), and half of them (49.84%) reported using no contraceptives (includes natural methods and no forms of contraceptive methods). My hypotheses were partially supported in this study. Socio-demographic variables such as age, head of household, and reproductive health care services received in the past six months were significant in the bivariate association between socio-demographic variables and types of MSM of contraceptive use. And early marriage, education, children under the age of five, past-year IPV experience, Syrian governorate, and time in Jordan (acculturation) were not significant in the bivariate analysis. Women who were married prior to the age of 18 years were significantly more likely to report female controlled MSM of contraceptive use than no MSM of contraceptive use at time of survey [RRR: 1.83, 95% CI: 1.07, 3.13] compared to women who were married past 18 years of age in the adjusted multinomial logistic model. Women with children under the age of five were less likely to report male involved MSM of contraceptive use than no MSM of contraceptive use [RRR: 0.32, 95% CI: 0.12, 0.84] compared to women with children older than five years of age in the adjusted multinomial logistic model. Women who reported reproductive health care services received in the past six months were significantly more likely to report female controlled MSM of contraceptive use than no MSM of contraceptive use [RRR: 2.21, 95% CI: 1.98, 3.80] compared to women who reported not receiving reproductive health care services in the past six months in the adjusted multinomial logistic model. Contrary to my hypothesis, women who reported themselves as head of household were less likely to report female controlled MSM of contraceptive use than no MSM of contraceptive use [RRR: 0.40, 95% CI: 0.18, 0.89] compared to women who reported their husbands or family members as head of households in the adjusted multinomial logistic model. No associations between socio-demographic variables like age, education, past year IPV, Syrian governorate, time spent in

Jordan and MSM of contraceptive use in the adjusted multinomial logistic regression model were found.

Implications: understanding multi-level factors associated with women's contraceptive use can inform multilevel reproductive health care and social norms interventions.

2.2 Introduction

This paper examines the prevalence of types of contraceptive use and the multilevel factors associated with the types of MSM of contraceptive use among a sample of 307 married Syrian refugee women in Jordan. In this paper MSM of contraceptive use includes IUDs, implants, injectables, OCs, and condoms. Female controlled MSM includes IUDs, injectables, pills, and implants. Male involved contraceptive use includes male condoms. No MSM of contraceptive use includes natural methods and no forms of contraceptive methods. And IPV experiences includes physical and sexual IPV.

Researchers have reported low MSM of contraceptive use among refugees globally, including Syrian refugees in Jordan.[15,25,54–60] Refugee women's low, inconsistent, and ineffective contraceptive use increases the risks of unplanned pregnancies, unsafe abortions, HIV, sexually transmitted infections (STIs), and obstetric complications.[15–18] Unintended pregnancies and gynecological conditions not only pose health risks but also significant economic and social costs on society and the public health system.[19] Unintended pregnancies caused by low, inconsistent, and ineffective contraceptive use reduces the quality of life and workforce efficiency hindering women's reproductive freedom, thereby compromising economic growth.[19]

Jordan hosts 670,000 Syrian refugees and asylum seekers who are registered with United Nations High Commissioner for Refugees (UNHCR), of whom approximately half are women and girls.[157,158] Only 52 percent of married Jordanian women aged between 15 and 49 years use contraceptives, the most commonly used method being the IUD (21%), followed by withdrawal (13%), OC (8%), and the male condom (5%).[159] No studies have examined the prevalence of types of MSM of contraceptive use, and multi-level factors associated with types of MSM of contraceptive use among married Syrian refugee women living in Jordan. However, it has been documented that Syrian refugee women experience barriers to access and use MSM of contraceptives due to lack of knowledge of MSM of contraceptives and health services, higher cost, fear of side effects, stigma, and harmful gender and norms.[22,55,56,56–58,61–63] As a result they are likely to face sexual and reproductive health (SRH) challenges related to unplanned pregnancies, STIs, and HIV.[18,55,56] There already exists evidence of pregnancy complications and STI's among Syrian refugees living in Jordan, Turkey, and Lebanon,[55–58] which could be addressed by increasing the effective and consistent use of MSM.

Social norms of early marriage and women's experiences of IPV have been identified as factors influencing the use of MSM of contraception in general and well as in refugee settings, including among Syrian refugees.[111,160,161] Early marriage, defined as marriage before 18 years of age, has been found to be correlated with higher fertility in nearly all studies,[162] which suggests no or low use of MSM of contraception. Social and familial pressures to bear children immediately following marriage could explain this realtionship.[163] It is important to investigate the relationship between early marriage and use of MSM of contraception in refugee settings

because early marriage in such settings are prevalent not only due to social norms but also due to loss of livelihoods, and need for protection and economic security.[62,164–166]

Similarly, the link between IPV and MSM of contraception in refugee settings needs further investigation. The 2023 multi-country study indicated that IPV was associated with increased odds of MSM of contraceptive use, including male condoms.[167] This relationship could be explained by the need to avoid unwanted pregnancies and unsafe abortions as well as the likelihood of contracting HIV and STIs,[168] in which case the female controlled MSM of contraception might increase. Systematic studies have not clearly explained whether the increased use of female or male controlled MSM of contraception is influenced by IPV. In addition, studies show that destabilization of gender norms and roles and culture of accepting spousal abuse trigger IPV in humanitarian situations,[141,142,169–171] thereby, increasing the relevance of the study of the association between IPV and male and female controlled MSM of contraceptive. In addition to early marriage and IPV, age, education, young children in household, decision-making agency, location, acculturation, and access to reproductive health services are some of the factors that influences the use of MSM of contraception.

Therefore, I examine the prevalence of types of contraceptive use and multi-level factors associated with female controlled and male involved types of MSM of contraceptive use among a sample of 307 married Syrian refugee women living in non-camp settings in Jordan. I use Bronfenbrenner's ecological framework of human development and integrated theory of gender and power to identify factors associated with married Syrian refugee women's MSM of contraceptive use. The individual, interpersonal, and societal level factors associated with MSM of contraceptive use among Syrian refugees in Jordan is an underdeveloped area of research, with most studies focusing on the assessment of reproductive health system and need for SRH among refugees.

Several theoretical frameworks have been developed and used to explain women's contraceptive use. Researchers have demonstrated how Bronfenbrenner's ecological model can explain contraceptive use among refugee populations.[40,41,172] The socio-ecological model proposed by Bronfenbrenner in 1979 suggests examining that social environment within which an individual behaves to study human development.[41] This framework helps conceptualize women's contraception use as a multifaceted phenomenon grounded in an interplay among individual, interpersonal and societal characteristics.[41,90] This framework can be used to organize research and to establish what factors emerge to be significant predictors of male and female controlled MSM of contraceptive use at each level of the social ecology.[90] It also allows integration and utilization of components of other theories at each structure of the ecology. Since globally women's contraceptive usage and its associated factors are also determined by social norms of early marriage, fertility, family size, and gender roles, I integrate theory of gender and power as well,[61] which provides a gendered perspective to each system within the ecological framework to guide the aims and hypotheses of the paper. The theory of gender and power suggests there are three major interdependent social structures that characterize the gendered relationships between men and women— the sexual division of labor and power, and the structure of cathexis (social norms).[43] The theory considers broader contexts of women's lives to explain that unequal sexual division of labor, power differentials between men and women, and harmful social/gender norms and culture that are embedded in social institutions (schools, work places, families, relationships, religious institutions, health system, media, social network etc.) dictating lower status of women

in societies increase the risks of low, inconsistent, and ineffective use of contraception for women.[43] I study individual (age, education, early marriage, children under the age of five), interpersonal (IPV and head of household), and societal (Syrian governorate of origin, acculturation, and reproductive health care services received) factors in relation to sexual division of labor, power differentials, and social norms that increases refugee women's vulnerability for of low, inconsistent, and ineffective use of contraception for women. Hence, this paper contributes to the literature by accessing what factors at individual, interpersonal, and societal levels in the ecological model are associated with married Syrian refugee women's MSM of contraceptive use by integrating the theory of gender and power.

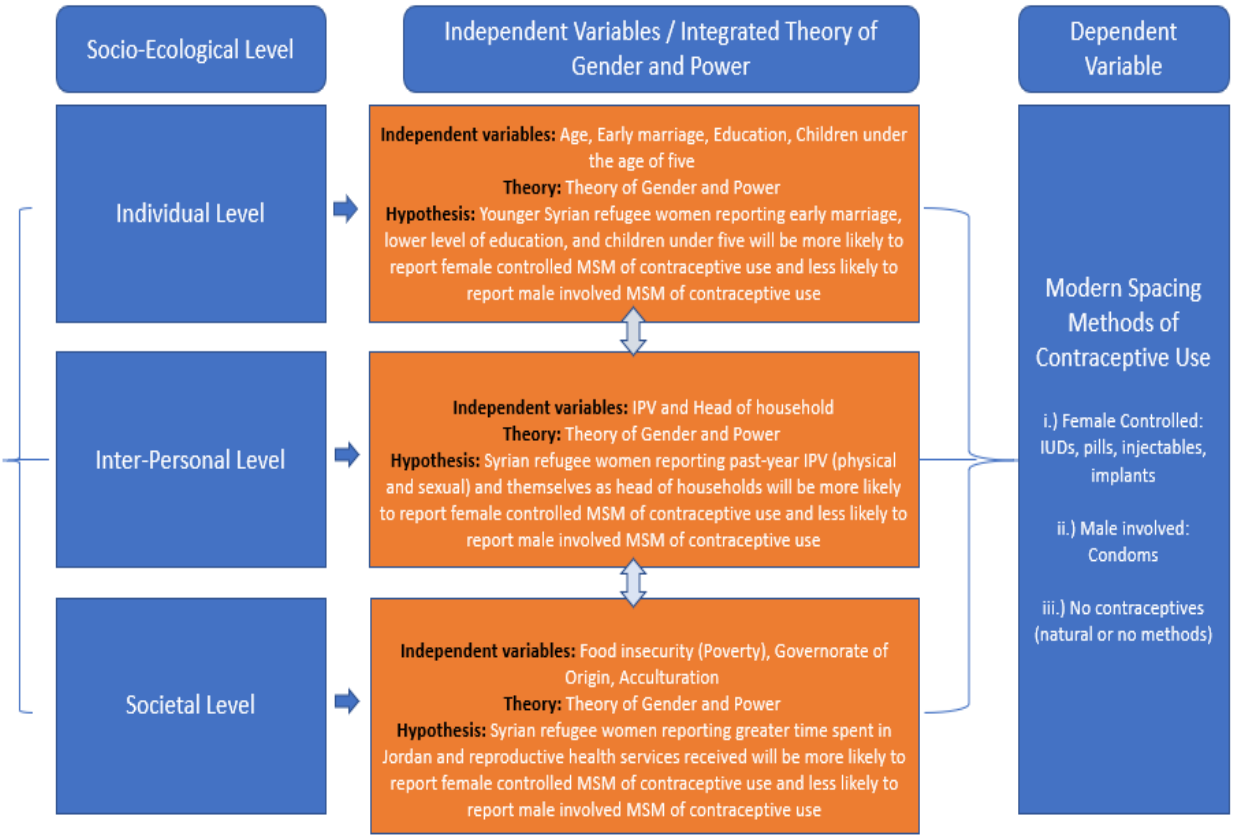
Thus, this paper examines the prevalence of types of MSM of contraceptive use and multilevel factors associated with types of MSM of contraceptive use among a sample of 307 Syrian refugee women in Jordan using socio-ecological framework and integrated theory of gender and power**.** I hypothesized that Syrian refugee women in the sample will have a lower prevalence of MSM of contraceptive use such as IUDs, implants, injectables, oral contraceptives, and condoms compared to general population. I hypothesized that younger Syrian refugee women reporting early marriage, lower level of education, having children under the age of five, past year IPV experiences, themselves as head of households, greater time spent in Jordan, and use of reproductive health care services will be more likely to report female controlled MSM of contraceptive use such as IUDs, pills, implants, and injectables compared to no contraceptive use and less likely to report male involved MSM of contraceptive such as condom use compared to no contraceptive use. Multinomial logistic regression was used for the analyses.

Below is the literature, theories, and conceptual model that has guided my research questions and hypotheses. I organized the literature on multi-level factors associated with types of MSM of contraceptive use among refugee women following the socio-ecological framework and integrated components of theory of gender and power at each level of the social ecology to guide the hypothesis and findings.

2.3 Theoretical background

This section outlines the literature on multi-level factors associated with MSM of contraceptive use among Syrian refugee women following the socio-ecological framework while integrating the theory of gender and power to guide the hypothesis and findings.

Figure 2. Conceptual framework for paper 2



Individual level factors associated with women's MSM of contraceptive use

A number of individual factors are associated with women's use of MSM of contraceptives such as age, education, early marriage and number of children. Findings on associations between age and contraceptive use among refugee and migrant populations are mixed. A systematic review of studies globally suggests older age to be associated with no or less contraceptive use because of women's belief of lower risk of pregnancy.[61] Studies in low- middle-income countries suggest recently married women avoid using contraceptives because of the social need to prove their fertility to their partners signaling the vitality of social norms.[61] Older women refugees in Gaza, West Bank, Guatemala, and Ethiopia were less likely to use MSM of contraceptives.[112,173,174] Husbands' opposition to contraceptive use,[16,175] fertility preferences, and limited access to contraceptives could be the reasons. A multi-country study among refugees and a study on migrants in Kenya showed older women were more likely to use MSM of contraceptives, which could be because of lack of availability or knowledge and awareness of MSM of contraception.[176,177] A study revealed younger migrants in Tanzania were hesitant to use MSM of contraceptives because of fear and concerns related to the side effects of contraceptives.[178] Fertility preferences in refugee settings is context specific driven by reproduction needs, uncertainty about the future, economic instability, and marital separation.[59] According to theory of gender and power, being young might suggest having less power and control in sexual relationship that might lead to increased used of self/female controlled MSM of contraceptives

such as IUDs, pills, implants, and injectables and decreased use of male involved contraceptives such as condoms.[43]

Early marriage has been identified as a risk factor of low, inconsistent, and ineffective contraceptive use in general and well as in refugee settings and among Syrian refugees.[160,161] Low contraceptive use is prevalent among traditional cultures that support childrearing following the marriage. A 2017 study reported 75% of Syrian refugees living in Jordan started conceiving right after marriage.[18] A study on Rohingya refugees in Bangladesh also associated each lower age at marriage with lower contraceptive use.[16] However, in this study on Rohingya refugees in Bangladesh, MSM contraception includes female and male involved contraceptives as well as permanent and natural methods such as IUDs, implants, pills, sterilization, OC, condoms, and withdrawal, which makes it hard to understand whether male or female led contraceptive use decreases with each lower age at marriage.[16] Evidence suggests Syrian refugee women in Jordan are at risk of early marriage.[179] The early marriage rates among Syrian girls between the ages of 15–17 has increased by threefold since the civil war,[180] further increasing the need to study the association between early marriage and types of MSM of contraceptive use. According to theory of gender and power, being married early might suggest having less power and control in sexual relationship to manage social and familial pressures to bear children immediately after marriage[163] that might lead to increased used of self/female controlled MSM of contraceptives such as IUDs, pills, implants, and injectables after bearing a number of children demanded by the family and society and decreased use of male involved contraceptives such as condoms.[43]

Education was found to be a protective factor for contraceptive use among Syrian refugees in Lebanon, Afghan refugees in Iran, refugees in Guatemala, Gaza and West Bank, and migrants in Kenya.[53,60,112,173,176,181] This association has been linked to birth spacing, contraceptive knowledge, fewer unplanned pregnancies, and LFP. Lower education is on the other hand has been linked with early marriage, early childbearing, and higher fertility rates. South Sudanese refugee women who attended secondary education in Uganda were twice more likely to use contraceptives than women who did not.[182] Also, women refugees in Ethiopia who attended formal education were 6.7 times more likely to use modern contraceptives than women who did not.[183] Understanding power in sexual relationship is important, especially in cultures where women's choices are influenced by their husbands support or opposition to contraceptives.[184] Husbands disapproval of certain types of contraceptives and gender roles have been found to influence contraceptive use among Rohingya refugees in Bangladesh,[16] refugees in Gaza,[112] and Somali migrants in Finland among other refugee populations.[113] Literature in refugee settings does suggests education provides negotiating power to women to use MSM of contraceptives.[53,60,112,173,176,181]

Children in a household is important to study in the context of contraceptive use. Household size and number of children were predictors of contraceptive use among Afghan refugees in Iran.[53] In son preferred societies gender of the children is also important to study. For instance, among Syrian refugee women in Iran number of children, particularly male children were associated with contraceptive use.[60] Fertility preferences in refugee settings is context specific driven by socio-economic conditions and fertility preferences.[59] One of more surviving children among migrants in Guatemala was positively associated with contraceptive use.[173] Similarly having more children, particularly male children among refugees in Gaza and West Bank was associated with contraceptive use.[112] Also, among migrant women in Kenya having 1-2 children and 3-5

children increased their likelihood to use MSM of contraceptives by 1.8 and 2.2 times respectively compared to those women with no children.[176] However, use of contraception might not be prevalent in cultures as among Syrians that support large household size might. Research shows Syrian refugee women have a higher total fertility rate (TFR) than Jordanian women (4.7 versus 2.6 children per women).[159] Syrian refugee women expressed a desire for having four to six children in their families, which is an acceptable social norm in the Syrian culture.[185]

Therefore, to examine individual level factors associated with Syrian refugee women's types of MSM of contraceptive use, I hypothesized that younger Syrian refugee women reporting early marriage, lower level of education, and having children under the age of five be more likely to report female controlled MSM of use such as IUDs, pills, implants, and injectables compared to no contraceptive use and less likely to report male involved MSM of contraceptive such as condom use compared to no contraceptive use.

Interpersonal factors associated with women's MSM of contraceptive use

A number of interpersonal factors are associated with refugee women's use of MSM of contraceptives. I include IPV and head of household in this paper. The link between IPV and contraceptive use is complex and context specific. A systematic review and a multi-country study examining IPV and contraceptive use in 2015 and 2023 showed women's IPV experiences associated with reduced odds of all types of contraceptive use, including male involved contraceptives such as condoms.[111,167] This could be because of men's attitudes towards contraception and the complex conversations required between couples to negotiate contraceptive use. In many cultures men perceive contraception to be a woman's responsibility, including Arabic culture.[116,117] On the contrary, 2023 multi-country study indicated that IPV was associated with increased odds of MSM of contraceptive use, including male condoms.[167] It is however not clear whether IPV causes lower use of MSM of contraceptives or lower use of MSM of contraceptive causes IPV because disagreement in contraceptive use can also lead to IPV and IPV can also lead to lower use of MSM of contraceptives signaling the vitality of gender roles and culture.[64] For instance, Afghan refugee women whose husbands opposed contraceptive use were more likely to experience IPV.[53] This could be driven by unwanted pregnancy because unwanted pregnancy was associated with IPV.[53] Also, given the complexity in humanitarian settings, types of IPV and context are important to study the association between IPV and contraceptive use because it is not possible to find the linkage such as the case among refugee women in Thailand-Burma border.[28] This paper will focus on how IPV is associated with types of MSM of contraceptive use (female or male controlled MSM of contraceptives compared to no contraceptives) among Syrian refugee women given refugee women are more likely to experience IPV during times of displacement.[186]

Theory of gender and power suggests women's reproductive and household decision-making power is influenced by the kind and amount of resources she possesses and the power she holds in a relationship with her partner.[42,43,187] It is important to study how forced migration changes the association between women's agency and contraceptive decisions. Given women are at risk of IPV, HIV and STIs, unintended pregnancies, unsafe abortions, and maternal deaths in refugee settings,[188] studying Syrian refugee women's agency in the context of reproductive health outcomes has the potential to guide health and economic empowerment interventions. In developing countries in non-refugee settings, joint decision-making about large household

purchases was significantly positively associated with MSM of contraceptive use.[167] Somali migrant women's low level of decision-making power within families was associated with low MSM of contraceptive use.[64]

Therefore, to examine interpersonal l level factors associated with Syrian refugee women's types of MSM of contraceptive use, I hypothesized that Syrian refugee women reporting past-year IPV and themselves as head of households be more likely to report female controlled MSM of use such as IUDs, pills, implants, and injectables compared to no contraceptive use and less likely to report male involved MSM of contraceptive such as condom use compared to no contraceptive use.

Societal level factors associated with women's MSM of contraceptive use

A number of societal factors are associated with refugee women's use of MSM of contraceptives. Time spend in Jordan (acculturation), use of reproductive health care services and Syrian governorate of origin are included in the study. Researchers have found acculturation to be positively associated with the level of contraceptive knowledge, which is an important factor associated with MSM of contraceptive use.[173] Length of stay in the host country was positively associated with contraceptive knowledge among women migrants in Guatemala.[173] Contraceptive knowledge is linked to higher contraceptive use among Nepalese migrants living in Japan.[189] Acculturation was also positively associated with increased oral contraceptive use among Korean immigrants, suggesting increased used of female controlled MSM of contraceptive use.[190]

Other societal level factors that is associated with contraceptive use is location because of the presence of reproductive healthcare and GBV services and social networks that provide knowledge and support. Studies found migrants in urban areas in Kenya and Guatemala were more likely to use contraceptives compared to non-migrants.[173,176] In the context of Syrian refugee women living in Lebanon, Syrians originating from Damascus had higher likelihood of using contraceptives.[60] The association between location/availability of types of MSM contraceptives whether male or female controlled and its use requires further investigation.

Therefore, to examine societal level factors associated with married Syrian refugee women's types of MSM of contraceptive use, I hypothesized that Syrian refugee women reporting greater time spent in Jordan and reproductive health services received in the past six months will be more likely to report female controlled MSM of contraceptive use such as IUDs, pills, implants, and injectables compared to no contraceptive use and less likely to report male involved MSM of contraceptive use such as condom use compared to no contraceptive use.

2.4 Methods

Study Design and Sample

507 Syrian refugee women were enrolled by a clinic-based systematic sampling method between April and November 2018 for the project Advancing Solutions in Policy, Implementation, Research and Engagement for Refugees (ASPIRE). Every 3rd or 5th (depending on clinic size) participant seeking health services was screened for eligibility. Participants were eligible if they

were Syrian refugees, female, 18 years or older, did not live in a refugee camp, and did not show any signs of cognitive impairment.[191] In accordance with local customs, compensation packages of daily useable goods were provided to participants. Recruitment and surveys were completed by trained research assistants in private rooms at participant health clinics. Syrian refugee women participated in face to face interviews on socio-demographics, gendered health and mental health concerns, IPV, and methods of family planning (contraceptive use). In this paper I focused on women who were married prior to the Syrian Civil War and are of reproductive age between 15 and 49 years (N=307). This sample excludes women who are willing and trying to get pregnant, is currently pregnant, has undergone female sterilization and hysterectomy (permanent methods of contraception), and were using multiple methods of contraceptives (MSM and condom users). Study protocols were approved by Columbia University Institutional Review Board and Ethics Committee of University of Jordan prior to the start of the study.

Research questions and hypotheses

The paper aims to examine the prevalence of types of MSM of contraceptive use (female controlled MSM of contraceptives such as intrauterine devices (IUDs), implants, injectables, oral contraceptives (OC); male involved MSM of contraceptives such as condoms; and no contraceptives); and examine the association between multi-level (individual, interpersonal and societal) factors and types of MSM of contraceptive use.

I hypothesized that married Syrian refugee women in the sample will have a lower prevalence of MSM of contraceptive use such as IUDs, implants, injectables, oral contraceptives, and condoms compared to general population. I hypothesized that younger married Syrian refugee women reporting early marriage, lower level of education, having children under the age of five, past year IPV experiences, themselves as head of households, greater time spent in Jordan, and use of reproductive health care services will be more likely to report female controlled MSM of contraceptive use such as IUDs, pills, implants, and injectables compared to no contraceptive use and less likely to report male involved MSM of contraceptive such as condom use compared to no contraceptive use. Multinomial logistic regression was used for the analyses.

Power Analysis

Power analysis helped me determine what sample size will ensure highest probability that we correctly reject the null hypothesis that there is no difference between the three groups. I conducted post-hoc power analysis with a power calculation tool based on the Wald test and algorithms described in Demidenko (2007) and Demidenko (2008).[136,137] I used a significance level of 0.05, fixed power at 0.80, and a sample size of 307 to yield a detectable (unadjusted) odds ratio of 2.09.

Dependent variable: Prevalence of types of MSM of contraceptive use is a three categorical variable. Women who indicated yes to current use of contraceptives were asked what methods of MSM (IUDs, injectables, implants, pills, male condoms) and natural methods (breastfeeding, periodic abstinence, withdrawal) were they using currently. Prevalence of types of MSM of contraceptive use was categorized as follows: Female controlled MSM (IUDs, injectables, pills, and implants), male involved contraceptives (male condoms), and no MSM of contraceptive (includes natural methods and no forms of contraceptive methods).

Independent variables

Individual factors associated with married Syrian refugee women's contraceptive use are age, education, early marriage, and children under the age of five. Age is a continuous variable in years. Education is a dummy variable with and without reading and writing proficiency. Early marriage is a dichotomous variable. Women who married prior the age of 18 is recorded as "yes" to early marriage and "no" if otherwise. Children under the age of five is recorded as a dichotomous variable.

Interpersonal factors associated with married Syrian refugee women's contraceptive use are physical and sexual IPV experiences and head of households. Women were asked if they experienced sexual and physical IPV perpetrated by husbands in the past 12 months using the conflict tactic scale (CTS). Participants responded to 10 dichotomous yes/no questions on whether they experienced physical and/or sexual violence. Physical IPV questions included whether their current or most recent husband, had thrown, kicked, or broke something while arguing with her; pushed, kicked or pulled her hard; threatened her with a knife or another sharp implement; slapped her; attacked her with a stick, a belt, or another object of that kind; attacked her with household equipment (e.g., chair); tried to choke her or placed his arms around her neck in an attempt to harm her; pulled her hair or yanked her clothes. Sexual IPV questions included whether her husband had tried to have sexual relations with her without her consent (against her will), and/or had sexual relations with her without her consent (against her will). Affirmative endorsements of physical IPV items were dichotomized as having experienced physical IPV, affirmative endorsements of sexual IPV items were dichotomized as having experienced sexual IPV and affirmative endorsements of any physical and/or sexual IPV items were dichotomized as having experienced IPV. IPV is defined as self-reported physical and sexual victimization by a partner. In addition, the intimate partner was defined as the male spouse of the woman.

Head of household is two categorical variables: 1.) self and 2.) husband and others. The category "husband and others include husband, father-in-law, mother-in-law, brother-in-law, father, mother, brother, grandfather, grandmother, son, daughter, uncle, aunt, and other. Head of the household means who makes decisions related to how money is managed or spent, and other decisions related to household and family life.

Societal factors associated with married Syrian refugee women's contraceptive use are time spent in Jordan (acculturation), governorate of origin and reproductive health care services received. Time spent in Jordan is a proxy for acculturation and is recorded as a continuous variable in years. Syrian Governorates is a four categorical variable given social norms differ across governorates: 1.) Aleppo or Idlib; 2.) Al-Raqqah, Deir Ezzor, or Hasaka or Damascus or Rif Dimashq; 3.) As-Suwayda, Daraa, or Qunitra; and 4.) Hama or Homs. Responses to Syrian governorates is combined into fewer categories based on proximity to one another and relatedly, similarities based on region and the cell size. Received reproductive health care services is a dummy variable measured by the question, "how frequently did you receive reproductive medical services in the past six months?" Women who reported receiving health care services one a week or once a month or once every three months or once every six months is recorded as "yes" to received reproductive health care services and "no" if otherwise.

Data Analysis

I used univariate statistics (i.e. frequency distributions, measures of central tendency, and standard deviation) for the analytical sample (N=307) to examine the prevalence of types of MSM of contraceptive use in the sample and for all variables (Aim 1). I tested the hypothesis that married Syrian refugee women in the sample will have a lower prevalence of MSM of contraceptive use such as IUDs, implants, injectables, oral contraceptives, and condoms compared to general population.

I then performed bivariate statistical analyses to examine the association between independent variables such as age, education, early marriage, and children under the age of five, past year physical and sexual IPV, head of household, Syrian governorate, time spent in Jordan (acculturation), and received reproductive health care services and the dependent variable "prevalence of types of MSM of contraceptive use." I conducted bivariate analysis using Chi-squared tests or Fisher's exact test to calculate significant differences in categorical variables between groups, while I used t-tests to calculate significant mean differences for binary variables between two groups. All reported p-values are 2-tailed with statistical significance set at .05.

I then performed adjusted multinomial logistic regressions to examine the association between individual, interpersonal, and societal level variables and the dependent variable "prevalence of types of MSM of contraceptive use" among clinic attending married Syrian refugee women living in non-camp settings in Jordan (Aim 2). For the adjusted multivariable logistic regression analysis, the selected multi-level variables include age, education, early marriage, and children under the age of five, past year physical and sexual IPV, head of household, Syrian governorate, time spent in Jordan (acculturation), and received reproductive health care services. I tested the hypothesis that younger married Syrian refugee women reporting early marriage, lower level of education, having children under the age of five, past year physical and sexual IPV experiences, themselves as head of households, greater time spent in Jordan, and reproductive health care services received will be more likely to report female controlled MSM of contraceptive use such as IUDs, pills, implants, and injectables compared to no contraceptive use and less likely to report male involved MSM of contraceptive such as condom use compared to no contraceptive use. I used multinomial logistic regression for the analyses. The multicollinearity test was conducted prior to using logistic regressions. Relative risk ratios (RRR) with a 95% confidence interval (CI) was evaluated in the bivariate and multinomial logistic regression analyses. All analyses were completed using STATA (version 16.0).

2.5 Results

Table 2.1. presents characteristics of women in the sample (307). The sample included 307 clinic attending married Syrian refugee women living in non-camp settings in Jordan with a mean age of 31.54 years (SD: 7.90, range: 17-48). A little less than half of women (44.01%) reported getting married prior to the age of 18 and 55.99% reported getting married after 18 years of age. A little more than four-fifth of women (81.11%) in the sample were able to read and write with ease and difficulty whereas 18.89 % of women could neither read or write. About two-fifth (38.44%) of women reported female controlled MSM of contraceptive use (IUDs, injectables,

pills, and implants), a little more than one-tenth reporting male involved MSM of contraceptive use (male condoms), and half of them (49.84%) reported using no contraceptive use (includes natural methods and no forms of contraceptive methods). Three-fourth of women (75.57%) reported having children under the age of five whereas one-fourth (24.43%) reported having children older than five years of age. A tiny fraction of women (14.33%) reported themselves as the head of the household whereas majority (85.67%) reported their husbands and others to be the head of the household. A little over two-fifth of women (41.04%) reported having experienced past year IPV whereas about three-fifth (58.96%) reported no past year experiences of IPV. About one-fourth (18.89%) of women reported originating from Aleppo or Idlib, more than one-fifth (21.82%) from Al-Raqqah, Deir ez-Zor, or Hasaka or Damascus or Rif Dimashq, about two-fifth (37.79%) from As-Suwayda, Daraa, or Qunitra, and more than one-fifth (21.50%) from Hama or Homs. Average years lived in Jordan was 5.25 years (SD: 1.19, range: 1-11). About three-fifth (59.61%) reported receiving reproductive health care services in the past six months whereas two-fifth (40.39%) of them reported otherwise.

Table 2 1. Sample characteristics of clinic attending married Syrian refugee women of reproductive age (15-49 years) living in Jordan

Variables	**Total = 307** **N (%) or Mean (SD)**
Age	31.54 (7.90)
Early marriage	
Yes (0-17)	136 (44.01)
No (18+)	173 (55.99)
Types of contraceptive use	
Female controlled	118 (38.44)
Male involved	36 (11.73)
No contraceptives	153 (49.84)
Types of Female controlled contraceptives (118)	54 (17.59)
IUD	7 (2.28)
Injectables	5 (1.63)
Implants	52 (16.94)
Pills	36 (11.73)
Male involved (condoms) (36)	
No MSM (153)	15 (4.89)
Breastfeeding	8 (2.61)
Counting	35 (11.40)
Withdrawal	95 (30.94)
No contraceptive method	
Education	
Yes	249 (81.11)
No	58 (18.89)
Number of children under 5	
Yes	232 (75.57)
No	75 (24.43)
Head of the household (Self)	
Yes	44 (14.33)

No	263 (85.67)
Past year IPV	
Yes	126 (41.04)
No	181 (58.96)
Syrian Governorate	
Aleppo or Idlib	58 (18.89)
Al-Raqqah, Deir ez-Zor, or Hasaka or Damascus or Rif Dimashq	67 (21.82)
As-Suwayda, Daraa, or Qunitra	116 (37.79)
Hama or Homs	66 (21.50)
Time in Jordan (in years)	5.25 (1.19)
Received reproductive health care services in the past six months	
Yes	183 (59.61)
No	124 (40.39)

Table 2.2. presents bivariate association between multi-level socio-demographic variables (age, education, early marriage, children under the age of five, past year IPV, head of household, Syrian governorate, time spent in Jordan (acculturation), and reproductive health care services received) and the dependent variable "types of MSM of contraceptive use". A few significant associations were found.

Age: Women who reported using female controlled contraceptives (IUDs, injectables, pills, and implants) were about the same age compared to women who did not report contraceptive use (31.40 versus 31.87 years; p=0.01). Women who reported use of male involved contraceptives (condoms) were slightly younger compared to women who did not report contraceptive use (30.58 versus 31.87 years; p=0.01). This association did not sustain in the multinomial logistic regression.

Early marriage: Of about two-fifth (38.44%) of women who reported using female controlled contraceptives, half of them reported getting married before the age of 18 years relative to who did report no contraceptive use (50 versus 41.18%, p=1.44). Of more than one-tenth (11.77%) of women who reported using male involved contraceptives, one third of them reported getting married before the age of 18 years relative to who did report no contraceptive use (33.33 versus 41.18%, p=1.44). This association was significant in the multinomial logistic regression (RRR=1.83, 95% CI=1.07, 3.13).

Education: Women who reported using female controlled contraceptives, majority reported having education (read and write) relative to about the same proportion who reported no contraceptive use (83.05 versus 79.08% p=0.665). Women who reported using male involved contraceptives, majority reported having education (read and write) relative to a slightly less proportion of women who reported no contraceptive use (83.35 versus 79.08% p=0.665). This association also did not sustain in the multinomial logistic regression.

Children under the age of five: Women who reported using female controlled contraceptives, more than four-fifth (80.51%) reported having children under the age of five years relative to a slightly less proportion of women who reported no contraceptive use (80.51versus 74.51% p=0.116). Women who reported using male involved contraceptives, almost two-third (63.89%) reported having children under the age of five years relative to about three-fourth of women who reported no contraceptive use (63.89 versus 74.518% p=0.116). This association was significant in the multinomial logistic regression (RRR=0.32, 95% CI=0.12, 0.84).

Head of the household: Women who reported using female controlled contraceptives, less than one-tenth (8.47%) reported themselves as head of households relative to about two-fifth of women who reported no contraceptive use (8.47 versus 19.61% p=0.03). Women who reported using male involved contraceptives, more than one-tenth (11.11%) reported themselves as head of households relative to about two-fifth of women who reported no contraceptive use (11.11 versus 19.61% p=0.03). This association was also significant in the multinomial logistic regression (RRR=0.40, 95% CI=0.18, 0.89).

IPV: Women who reported using female controlled contraceptives, more than two-fifth (44.07%) reported experiences of past year IPV relative to less than two-fifth of women who reported no contraceptive use (44.07 versus 37.91% p=0.538). Women who reported using male involved contraceptives, more than two-fifth (44.44%) reported experiences of past year IPV relative to less than two-fifth of women who reported no contraceptive use (44.44 versus 37.91% p=0.538). This association also did not sustain in the multinomial logistic regression.

Syrian governorate: Women who reported using female controlled contraceptives, more than two-fifth (22.03%) originated from Aleppo or Idlib; more than one-fourth (25.42%) from Al-Raqqah, Deir ez-Zor, or Hasaka or Damascus or Rif Dimashq; more than one-third (22.90) from As-Suwayda, Daraa, or Qunitra; and less than one-fifth (18.64%) from Hama or Homs. Women who reported using male involved contraceptives, almost one-fifth (19.44%) originated from Aleppo or Idlib; one-fifth (19.44%) from Al-Raqqah, Deir ez-Zor, or Hasaka or Damascus or Rif Dimashq; more than two-fifth from As-Suwayda, Daraa, or Qunitra; and one-fifth from Hama or Homs (19.44%) (p=0.662). This association also did not sustain in the multinomial logistic regression.

Time in Jordan (acculturation): Women who reported using female controlled contraceptives lived a less time in Jordan (5.07 years) compared to women who reported no contraceptive use (5.07 versus 5.33 years p=0.33). Women who reported using male involved contraceptives lived a little longer than women who reported no contraceptive use (5.47 versus 5.33 years p=0.33). This association also did not sustain in the multinomial logistic regression.

Received reproductive health services: Women who reported using female controlled contraceptives, more than two-third (71.19%) reported receiving reproductive health services compared to half of women who reported using no contraceptives (71.19 versus 50.98% *p*=0.003). Women who reported using male controlled contraceptives, less than two-third (58.33%) reported receiving reproductive health services compared to half of women who reported using no contraceptives (58.33 versus 50.98% *p*=0.003). This association was also significant in the multinomial logistic regression (RRR=2.21, 95% CI=1.98, 3.80).

Therefore, socio-demographic variables such as age, head of household, and reproductive health care services received in the past six months were significant in the bivariate association between socio-demographic variables and types of MSM of contraceptive use. And early marriage, education, children under the age of five, past-year IPV experience, Syrian governorate, and time in Jordan (acculturation) were not significant in the bivariate analysis.

Table 2 2. Bivariate association between types of MSM contraceptive use and socio-demographic factors among clinic attending married Syrian refugee women in Jordan

Variables	**Female controlled contraceptives = 118 (38.44) (*N*=) x (SD) or n (%)[a]**	**Male involved contraceptives = 36 (11.73) (*N*=) x (SD) or n (%)[a]**	**No contraceptives = 153 (49.84) (*N*=) x (SD) or n (%)[a]**	**P-Value**
Age	31.40 (6.97)	30.58 (6.95)	31.87 (8.76)	**0.019****
Early marriage				0.144
Yes (0-17)	59 (50.00)	12 (33.33)	63 (41.18)	
No (18+)	59 (50.00)	24 (66.67)	90 (58.82)	
Education				0.665
Yes	98 (83.05)	30 (83.33)	121 (79.08)	
No	20 (16.95)	6 (16.67)	32 (20.92)	
Number of children under 5				0.116
Yes	95 (80.51)	23 (63.89)	114 (74.51)	
No	23 (19.49)	13 (36.11)	39 (2.49)	
Head of the household (Self)				**0.029***
Yes	10 (8.47)	4 (11.11)	30 (19.61)	
No	108 (91.53)	32 (88.89)	123 (80.39)	
Past year IPV				0.538
Yes	52 (44.07)	16 (44.44)	58 (37.91)	
No	66 (55.93)	20 (55.56)	95 (62.09)	
Syrian Governorate				0.662
Aleppo or Idlib	26 (22.03)	7 (19.44)	25 (16.34)	
Al-Raqqah, Deir ez-Zor, or Hasaka or Damascus or Rif Dimashq	30 (25.42)	7 (19.44)	30 (19.61)	
As-Suwayda, Daraa, or Qunitra	40 (33.90)	15 (41.67)	61 (39.87)	
Hama or Homs	22 (18.64)	7 (19.44)	37 (24.18)	
Time in Jordan (in years)	5.07 (1.07)	5.47 (1.13)	5.33 (1.26)	0.327

Received reproductive health care services in the past six months				**0.003****
Yes	84 (71.19)	21 (58.33)	78 (50.98)	
No	34 (28.81)	15 (41.67)	75 (49.02)	

Table 2.3. presents adjusted multinomial logistic regressions of the associations between multi-level socio-demographic variables (age, education, early marriage, children under the age of five, past year IPV, head of household, Syrian governorate, time spent in Jordan (acculturation), and received reproductive health care services) and the dependent variable "types of MSM of contraceptive use".

My hypothesis was partially supported. There were no associations between socio-demographic variables like age, education, past year IPV, Syrian governorate, time spent in Jordan and MSM of contraceptive use in the adjusted multinomial logistic regression model. However, there were relationships found between early marriage, children under the age of five, head of household, and reproductive health care services received in the past six months, and MSM of contraceptive use.

Women who were married prior to the age of 18 years were significantly more likely to report female controlled MSM of contraceptive use than no MSM of contraceptive use at time of survey [RRR: 1.83, 95% CI: 1.07, 3.13] compared to women who were married past 18 years of age in the adjusted multinomial logistic model. Women with children under the age of five were less likely to report male involved MSM of contraceptive use than no MSM of contraceptive use [RRR: 0.32, 95% CI: 0.12, 0.84] compared to women with children older than five years of age in the adjusted multinomial logistic model. Women who reported receiving reproductive health care services in the past six months were significantly more likely to report female controlled MSM of contraceptive use than no MSM of contraceptive use [RRR: 2.21, 95% CI: 1.98, 3.80] compared to women who reported not receiving reproductive health care services in the past six months in the adjusted multinomial logistic model. Contrary to my hypothesis, women who reported themselves as head of household were less likely to report female controlled MSM of contraceptive use than no MSM of contraceptive use [RRR: 0.40, 95% CI: 0.18, 0.89] compared to women who reported their husbands or family members as head of households in the adjusted multinomial logistic model.

Table 2 3. Adjusted multinomial logistic regression: association between types of MSM of contraceptive use and socio-demographic factors among clinic attending married Syrian refugee women living in Jordan

Variables	**AOR[A] (95% CI)**

Age	
Modern Spacing Methods of contraceptives	1.02 (0.98, 1.06)
Male involved (Condoms)	0.95 (0.90, 1.00)
No Modern Spacing Method (Ref Category)	
Early marriage	
Modern Spacing Methods of contraceptives	**1.83 (1.07, 3.13)***
Male involved (Condoms)	0.67 (0.30, 1.51)
No Modern Spacing Method (Ref Category)	
Education	
Modern Spacing Methods of contraceptives	1.94 (0.93, 4.04)
Male involved	1.27 (0.44, 3.68)
No Modern Spacing Method (Ref Category)	
Children under 5	
Modern Spacing Methods of contraceptives	1.26 (0.62, 2.55)
Male involved	**0.32 (0.12, 0.84)***
No Modern Spacing Method (Ref Category)	
Head of household (self)	
Modern Spacing Methods of contraceptives	**0.40 (0.18, 0.89)***
Male involved	0.52 (0.16, 1.65)
No Modern Spacing Method (Ref Category)	
Past year IPV	
Modern Spacing Methods of contraceptives	1.21 (0.72, 2.05)
Male involved	1.58 (0.72, 3.47)
No Modern Spacing Method (Ref Category)	
Syrian governorate	
Modern Spacing Methods of contraceptives	
Al-Raqqah, Deir ez-Zor, or Hasaka or Damascus or Rif Dimashq	0.83 (0.36, 1.89)
As-Suwayda, Daraa, or Qunitra	0.55 (0.24, 1.24)
Hama or Homs	0.47 (0.20, 1.14)
Aleppo or Idlib (Ref)	
Male involved	
Al-Raqqah, Deir ez-Zor, or Hasaka or Damascus or Rif Dimashq	0.80 (0.23, 2.85)
As-Suwayda, Daraa, or Qunitra	0.84 (0.27, 2.64)
Hama or Homs	0.59 (0.55, 2.10)
Aleppo or Idlib (Ref)	
No Modern Spacing Method (Ref Category)	
Time in Jordan	
Modern Spacing Methods of contraceptives	0.87 (0.70, 1.09)
Male involved	1.10 (0.82, 1.50)
No Modern Spacing Method (Ref Category)	
Received health care services	
Modern Spacing Methods of contraceptives	**2.21 (1.98, 3.80)***
Male involved	1.20 (0.55, 2.58)
No Modern Spacing Method (Ref Category)	

[A] Adjusted for age, education (reading and writing proficiency), head of household, children under the age of five, Syrian governorate, time spent in Jordan, and received health care services
**P*<0.05, IPV, intimate partner violence; RRR, relative risk ratio; CI, confidence interval

2.6. Limitations

First, the cross-sectional design and the temporality of events of this study limits the ability to draw causal inferences. Second, the data does not capture women's preferred method of contraception. Third, given the sensitivity of the topics, results must be used with caution. Forth, the data lacks characteristics of male partners, however, certain interpersonal factors like IPV experiences and whom makes financial and household decisions provides significant insight into the topic. Fifth, the sample is not be representative of the entire refugee and asylum-seeking population since the sample was recruited from the health-care seeking population. Therefore, the findings cannot be generalized. However, they are representative of care-seeking populations. Sixth, the study examines contraceptive use in the context of heterosexual relationships. Seventh, the study could not explore the frequency and/or multiple use of contraceptive methods as well as severity of IPV experiences. Eight, the model in the study could not hold the food insecurity variable. Finally, the measures of contraceptives do not capture the effectiveness and the efficiency of the use. Therefore, even though the measurements to examine contraceptive use and IPV (using CTS) was adapted for Arabic language and culture, these measures lack psychometrics.

Discussion

In paper two, 38.44% of Syrian refugee women living in Jordan reported using female controlled MSM (IUDs, injectables, pills, and implants), 11.73% reported using male involved contraceptives (male condoms), and half of them 49.84% reported using no contraceptives (includes natural methods and no forms of contraceptive methods). The findings are consistent with the overall low MSM of contraceptive use among refugees globally, including Syrian refugees in Jordan.[15,25,54–60] Also, this prevalence rate of MSM of contraceptive among Syrian refugee women is lower than 52% of married Jordanian women using MSM of contraceptives in Jordan. [159] No studies have examined the prevalence of MSM of contraceptive use among married Syrian refugee women living in Jordan, and thus, this study contributes to the field.

The study also sheds light on how early marriage, having young children in households, women's agency (head of household), and reproductive health care services received in the past six months influences refugee women's MSM of contraceptive use. Women married younger than 18 years of age were more likely to report female controlled (IUDs, injectables, pills, and implants) MSM of contraceptive use compared to women who reported no MSM of contraceptive use at time of survey. Even though low contraceptive use is prevalent among traditional cultures that support childrearing following the marriage, in the context of Syrian refugee women, being married early might suggest having less power and control in sexual relationship to manage social and familial pressures to bear children immediately after marriage[163] that might lead to increased used of self/female controlled MSM of contraceptives such as IUDs, pills, implants, and injectables.

In addition, women with children under the age of five were less likely to report male involved MSM of contraceptive use compared to women who reported no MSM of contraceptive use.

Research suggests that use of contraception might not be prevalent in cultures as among Syrians who support large household size and Syrian refugee women have a higher total fertility rate (TFR) than Jordanian women (4.7 versus 2.6 children per women),[159] signaling that in the context of Syrian refugee women living in Jordan, the households might want more children. Syrian refugee women expressed a desire for having four to six children in their families, which is an acceptable social norm in the Syrian culture according to one study.[185]

Additionally, women who reported themselves as head of household were less likely to report female controlled MSM of contraceptive use compared to women who reported no MSM of contraceptive use. This suggests that even though Syrian refugee women who reported making financial and economic decisions in households when living in Jordan, they were not more likely to make decisions on use of female controlled MSM such as IUDs, injectables, pills, and implants. During times of conflict, research shows that refugee women have had to take additional responsibilities of making household decisions. Therefore, unlike in non-refugee settings globally, where joint decision-making about large household purchases was significantly positively associated with MSM of contraceptive use,[167] this paper confirms that refugee women's household decision making agency does not translate to reproductive health and decision making in humanitarian contexts.

Finally, women who reported accessing reproductive health care services in the past six months were more likely to report female controlled MSM of contraceptive use compared to refugee women who reported no MSM of contraceptive use. This finding portrays the significant role health services can play in the uptake of MSM of contraceptive use in refugee settings. Women in humanitarian situations experience reproductive health issues of pregnancy, abortion, and HIV/STIs among others[192] and access to health services can help address these problems through increased contraception use.

2.7 Implications for social policy and practice

Low, inconsistent, and ineffective contraceptive use not only pose health risks as well as significant economic and social costs on society and the public health system.[193,194] The prevalence of types of MSM of contraceptive among refugees not only allow cross comparisons of types of contraceptive use among refugee populations worldwide for researchers and global actors but also, signifies the severity of public health issue to the policy makers, international organizations, social workers, and the government of Jordan. This might help advocate for refugees to seek health and family planning services.

Most studies include MSM of female controlled and male involved contraceptives in one category making it harder to study the influence of factors on MSM of contraceptive use.[16,167,171,176,195] The finding of this paper shed light on the linkage between early marriage, having young children at home, and receiving reproductive health care services and male and female controlled MSM of contraceptive use. It provides a better understanding of refugee women's environment in which the use of MSM of contraceptive use takes place shedding light

on gender and social norms, which has important implications for the integration of risk informed family planning services in humanitarian programs and services in conflict settings.[115] In this case, those women who reported reproductive health care services received in the past six months were significantly more likely to report female controlled MSM of contraceptive use than no MSM of contraceptive use signifying the importance of health care services in the vicinity. Women who were married prior to the age of 18 years were significantly more likely to report female controlled MSM of contraceptive use than no MSM of contraceptive use at the time of the survey tells us the social norms around contraceptive use and male involvement in the process. In this study women who reported themselves as head of the household were less likely to report female controlled MSM of contraceptive use than no MSM contraceptive, which should be further studied in relation to their contraceptive preferences and enhanced agency to make family decisions.

The use of MSM of contraceptive use is highly contextual and if influenced by accepted norms. The findings may support the development of culturally appropriate interventions at varied levels of socio-ecological model to increase the uptake of female and male involved MSM of contraceptive use. Some of them include behavioral, interpersonal, education and empowerment, health, and social norms interventions. The findings might reinforce the need to continue investing in uptake of MSM of contraceptive use by addressing refugee women's challenges in resettling and seeking health services.

Implications for future research

There are limited studies that examine the factors associated with female and male involved MSM of contraceptives in refugee settings with most using cross-sectional datasets. There is a need of a systematic review for studies on association between multi-level socio-demographic factors and female and male involved MSM of contraceptive use. More research is also needed to understand the mechanisms through which these factors increase or decrease use of female and/or male involved MSM of contraceptives. With regard to measurements, most contraceptives studies include MSM of female controlled and male involved contraceptives in one category.[16,167,171,176,195] Future studies could use comprehensive and multi-dimensional instruments to assess types, patterns, and multiple methods of MSM of contraceptive use.

Gender-based power in a sexual relationship has been long identified as a determinant of women's sexual and reproductive health.[196] Gender-based power relations have been measured by differences in age, education, employment, income, resources, communication, and knowledge between partners in heterosexual relationships.[197] Future research could focus on developing measures of power relations in gender-based attitude on MSM of contraceptive use for populations in refugee settings.

Fertility preferences is context specific driven by reproduction needs, uncertainty about the future, economic instability, and marital separation.[59] Therefore, the demand for children and thus, the demand for contraceptive in refugee settings needs further investigation. Most contraceptive uptake interventions might put pressure on women to use women controlled MSM of contraceptives. In this context, interventions that increase male involved MSM of contraceptives should be studies.

Another limitation is that fewer studies include men in the study and use longitudinal data for causal interpretation of mechanism linking social norms of IPV and early marriage and MSM of contraceptive use. There is a need for an updated systematic review on mechanism explaining the link between early marriage and male and female involved MSM of contraceptive use and between IPV and male and female involved MSM of contraceptive use. Also, fewer large-scale studies examine the effects of MSM of contraceptive uptake interventions on men's change in attitudes and use of male involved contraceptives.

Chapter 3: Multi level factors associated with husbands' no opposition to wives' economic activity among married Syrian refugee women living in non-camp settings in Jordan

3.1 Summary

Despite global gains in female employment, refugee women are less likely to participate in income generating activities than men, women, and refugee men of the host country, one of the reasons being husbands' opposition to their wives' economic activity.[198] In this paper, I examine the prevalence of husbands' no opposition to wives' economic activity and multi-level factors associated with husbands' no opposition to wives' economic activity among a sample of 344 married Syrian refugee women living in non-camp settings in Jordan. I also examine the association between no lifetime physical and sexual IPV and husbands' no opposition to wives' economic activity. Additionally, I examine the association between head of the households and husbands' no opposition to wives' economic activity.
Finally, I examine if the relationship between no lifetime physical and sexual IPV and husbands' no opposition to wives' economic activity is mediated/strengthened by women's agency measured by if they reported themselves as head of the household. In this paper, I used Bronfenbrenner's socio-ecological framework and integrated theory of gender and power to guide my research questions and hypotheses.

Methods: A total of 344 married Syrian refugee women were recruited from health clinic-through systematic sampling method between April and November 2018 for the project Advancing Solutions in Policy, Implementation, Research and Engagement for Refugees (ASPIRE) and they were included in the analytical sample. I hypothesized that married Syrian refugee women in the sample will report an overall low prevalence of husbands' no opposition to wives' economic activity compared to general population.[13,199,200] Second, I hypothesized that married Syrian refugee women who are younger, more educated, have previous work experience in Syria, have a smaller number of children, and lived greater number of years in Jordan will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who are older, less educated, have no previous work experience in Syria, has a greater number of children, and have less number of years in Jordan. Third, I hypothesized that married Syrian refugee women who report no lifetime physical and sexual IPV will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who report lifetime physical and sexual IPV. Four, I hypothesized that married Syrian refugee women who report themselves as head of the household will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who do not report themselves as head of the households. Fifth, I also hypothesized that married Syrian refugee women who report no lifetime physical and sexual IPV as well as also

report themselves as head of households will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who report lifetime physical and sexual IPV and who do not report themselves as head of households controlling for age, education, previous work experience, number of children, governorate of origin, length of stay in Jordan (acculturation), and food insecurity (poverty). My hypotheses were guide by Bronfenbrenner's socio-ecological model and integrated theory of gender and power to examine multi-level factors associated with husbands' no opposition to wives' economic activity. To test the hypotheses, I used bivariate and multivariable logistic regressions.

Results: About one-third (65.12 %) of women reported husbands' no opposition to wives' economic activity; whereas a little more than one-third (34.88 %) of them reported refugee husbands' opposition to wives' economic activity. My hypothesis was partially supported in bivariate and multivariable logistical regression analysis. Age, education, previous work experience, head of the household, no lifetime IPV, and time in Jordan were significant in the bivariate analysis between multi-level/socio-demographic variables and husbands' no opposition to wives' economic activity. Of the less than half (44.77%) of women who did not experience lifetime IPV, more than one-third (70.8%) of women reported husbands' no opposition to wives' economic activity relative to those who reported lifetime IPV experience (70.78% versus 29.22%; *P*=0.05). Of the more than one-fifth (22.97%) of women who reported themselves as head of household, more than four-fifth (83.54 %) of women reported husbands' no opposition to wives' economic activity relative to those who did not report themselves as head of the households (83.54% versus 16.46%; *P*=0.000). In both the unadjusted odds ratio (OR=1.58 95% confidence interval, CI=1.00-2.48) and adjusted odds ratio (aOR=1.60, 95% CI=0.98-2.563) models, not experiencing lifetime IPV were associated with increased odds of husbands' no opposition to wives' economic activity. Similarly, in both the unadjusted odds ratio (OR=3.44 95% confidence interval, CI=1.80-6.54) and adjusted odds ratio (aOR=2.65, 95% CI=1.33-5.29) models, women who reported themselves as head of the households were associated with increased odds of husbands' no opposition to wives' economic activity. Likewise, in both the unadjusted odds ratio (OR=7.97 95% confidence interval, CI=2.40-26.40) and adjusted odds ratio (aOR=5.82, 95% CI=1.66-20.40) models, women who reported no IPV experiences as well as who reported themselves as head of the households were associated with increased odds of husbands' no opposition to wives' economic activity relative to women who reported lifetime IPV experiences and who did not report themselves as the head of the households. Only age and education were significant in the adjusted model.

Implications: understanding multi-level factors associated with refugee husbands' opposition and support to women's economic activity can benefit gaps in women's employment and support economic empowerment interventions.

3.2 Introduction

The paper examines the prevalence of husbands' no opposition to wives' economic activity and its associated multi-level factors among a sample of 344 married Syrian refugee women living in non-camp settings in Jordan. For this paper, I use Syrian married refugee women's perceived no opposition from husbands to income-generating opportunity as a proxy for their husbands' no opposition to wives' economic activity. I focus on married women to study their husbands' no opposition to wives' economic activity because globally women's economic activity after marriage is impacted by her partner's characteristics and gender and social norms surrounding women's childrearing and household responsibilities.[201–206] In this paper, IPV is defined as lifetime physical and sexual IPV.

Globally, refugee women are less likely to participate in income generating activities than men, women, and refugee men of the host country.[198] A study estimated 94 percent of Syrian refugee women in Jordan are not currently working compared to 80 % of Jordanian women.[207] economic activity and unemployment of Syrian refugee women in Jordan are forms of gender inequity that pose significant social, economic and health cost.[13] Syrian refugee women will continue to live in poverty and on humanitarian aid and assistance without proper economic engagement in the labor market.[199] Refugee women's increased economic activity leads to reduced poverty and faster economic growth.[198]

As of February 2023 Jordan hosts 675,000 Syrian refugees, the majority of whom are women.[208–210] It is estimated that 86% of Syrian refugees are currently living under the Jordanian poverty line of approximately USD 95 per capita per month.[211] Unemployment of Syrian refugee women in Jordan is estimated at 83.3%.[13] Unemployment is defined as who is not employed and is seeking a job. A study found that Jordanians were 2.16 times more likely to be employed than Syrian refugees and men 7.83 times more than women.[212] Refugee women not only face severe bureaucratic challenges of obtaining and renewing work permits but also encounter restrictions posed by household responsibilities and harmful social and gender norms that preclude them from engaging in income-generating activities in host countries.[13,209] Married refugee women particularly in Arab region, including Jordan, may face societal barriers because of traditional culture, values and gender norms that lower the tendency of women to enter into the job market.[213–216] Fewer studies have examined factors associated with Syrian refugee women's husbands' no opposition to their economic activity from an ecological, social norms, and gendered perspectives, with most studies citing refugee women's low participation in employment outside their homes.[13,199,200] Also, most studies focus on immigrant and refugee men's overall economic outcomes and rarely on women.[217,218] Barriers and enablers that exist in a social environment and in households for refugee women's economic activity is an understudied area, with most studies focusing on factors such as access to the job market, work permits, education, language skills, and discrimination.[13] There is limited understanding of Syrian refugee husbands' no opposition to wives' economic activity in host countries in general.[219]

Researchers have studied IPV perpetrated by husbands as one of the determining risk factors for women to participate in economic activities in refugee and non-refugee settings.[74,97,220–229] In traditional societies, including Jordan and Syria, men's negative attitude towards and disapproval of wives' employment explain this relationship.[74,97,220–225] Whereas women's agency and financial and household decision-making power at home has been found to be a protective factor

for her economic activity globally.[230,231] Women's access to economic resources and increased bargaining power with their husbands explain this relationship in the context of developing countries.[232]

Several theoretical frameworks have been developed to explain women's economic activity among non-refugee populations. Although there is no specific theory to explain married refugee women's participation in income-generating activities in the context of forced displacement, Bronfenbrenner's ecological framework is useful in studying married women refugees' social environment within which an individual behaves to study human development.[41] This framework helps conceptualize women's participation in economic activities as a multifaceted phenomenon grounded in an interplay among individual, interpersonal and societal characteristics.[41,90] This framework is used in this paper to organize research and analysis and to establish what factors emerge to be significant predictors of women's economic activity at each level of the social ecology.[90] It also allows integration and utilization of components of other theories at each structure of the ecology. In that context, I have integrated theory of gender and power that has been used among non-refugee populations to study how factors related to gender norms is associated with married refugee women's economic activity.[43,201,219,233] Gender norm refers to widely shared beliefs about how people of varied genders should behave in a social group. It defines appropriate behaviors for men and women in heterosexual relationships. These traditional gender norms have implications for both genders' economic activity in immigrant and non-immigrant populations globally, including Jordan in the Middle-East, and moreover, contribute to gender gaps in economic activity as women's role are confined within households.[202,234–240] Studies have noted prevailing patriarchal system among Syrian refugee families as a risk factor for their economic activity in Jordan.[241–243] Though norms, religion, and culture associated with immigrant women's country of origin as well as of host countries have been recognized to play an important role in determining their economic activity in host countries,[244] there is lack of empirical evidences on this matter.[216,245] The gendered division of labor in the household, one of the aspects of theory of gender and power, originating from patriarchal and traditional society where women are expected to carry out unpaid household work, disproportionately creates high opportunity cost for women's time in economic activities outside their home.[213] It is unclear how married Syrian refugee women's economic activity is influenced by these gendered division of labor in humanitarian contexts. For example, after the conflict in Indonesia, many women in Aceh returned to the domestic sphere in the name of Sharia law, whereas many in Ambon remained economically active.[246] Therefore, manifestation of gender norms explained by theory of gender and power— a subset of social norms is key to understanding the process of married refugee women's labor force decision-making in host countries.[233]

Thus, this paper examines the prevalence of husbands' no opposition to wives' economic activity and multi-level factors associated with husbands' no opposition to wives' economic activity among a sample of 344 married Syrian refugee women living in non-camp settings in Jordan using Bronfenbrenner's socio-ecological model and integrated theory of gender and power. The aims of the paper are to examine prevalence of husbands' no opposition to wives' economic activity, the multilevel factors associated with husbands' no opposition to wives' economic activity, the relationship between no lifetime IPV and husbands' no opposition to wives' economic activity, the relationship between head of the household and husbands' no opposition

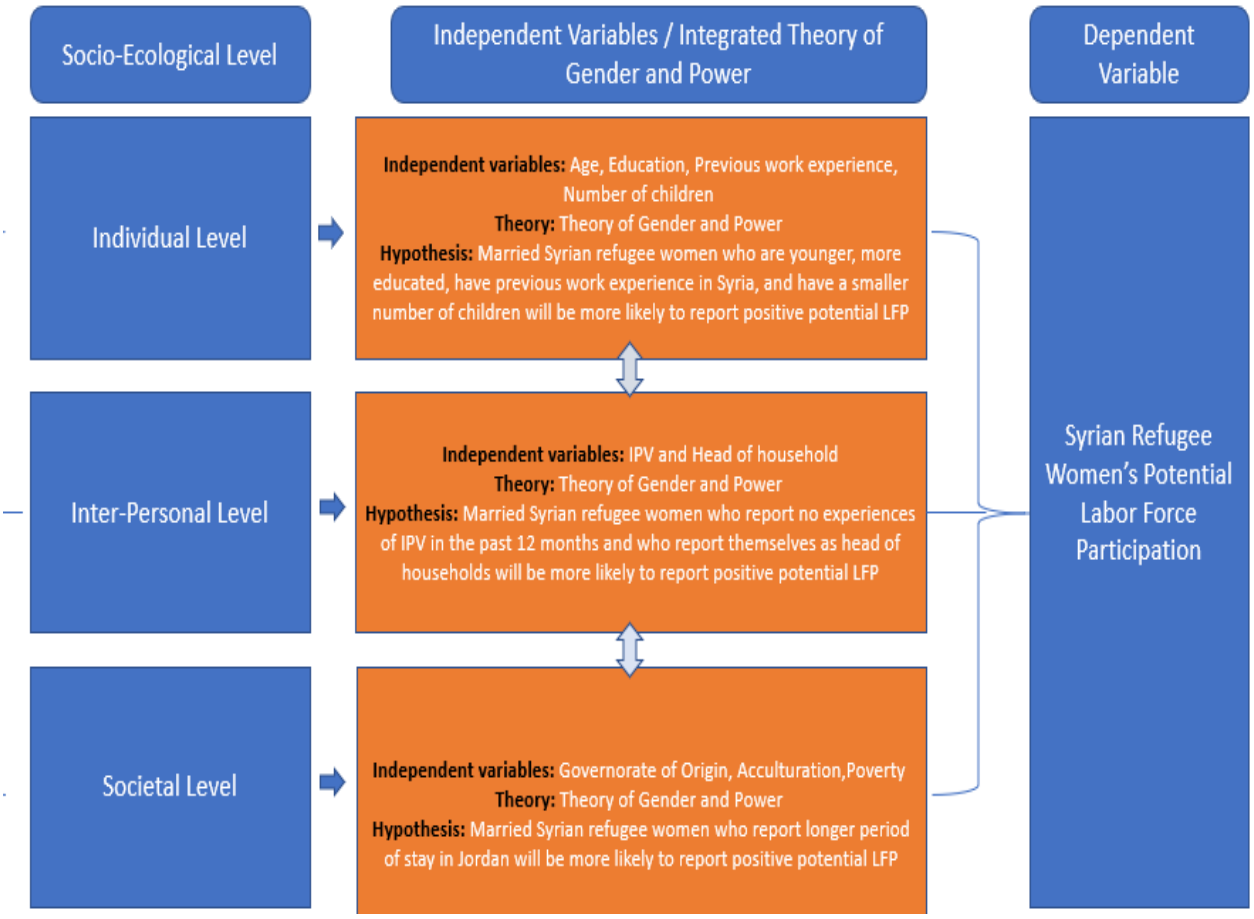
to wives' economic activity, and finally, the relationship between no lifetime IPV and husbands' no opposition to wives' economic activity is mediated/strengthened by women's agency measured by if they reported themselves as head of the household.

I also examine a number of hypothesis. I hypothesize that married Syrian refugee women in the sample will report an overall low prevalence of husbands' no opposition to wives' economic activity compared to general population.[13,199,200] Second, I hypothesize that married Syrian refugee women who are younger, more educated, have previous work experience in Syria, have a smaller number of children, and lived greater number of years in Jordan will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who are older, less educated, have no previous work experience in Syria, has a greater number of children, and have less number of years in Jordan. Third, I hypothesize that married Syrian refugee women who report no lifetime physical and sexual IPV will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who report lifetime physical and sexual IPV. Four, I hypothesize that married Syrian refugee women who report themselves as head of the household will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who do not report themselves as head of the households. Fifth, I also hypothesize that married Syrian refugee women who report no lifetime physical and sexual IPV as well as also report themselves as head of households will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who report lifetime physical and sexual IPV and who do not report themselves as head of households controlling for age, education, previous work experience, number of children, governorate of origin, length of stay in Jordan (acculturation), and food insecurity (poverty).

3.3 Theoretical background

This section outlines the literature on multi-level factors associated with women's economic activity following the socio-ecological framework while integrating the theory of gender and power to guide the hypothesis and findings.

Figure 3. Conceptual framework for paper 3



Individual factors associated with married Syrian refugee women's economic activity

A number of individual factors are associated with women's economic activity such as age, education, previous work experience in Syria and number of children. Research among both refugee and non-refugee populations shows that women's employment prospects decline during their reproductive age.[247,248] Studies that examine refugee women's employment in host countries like the United States and Turkey indicate that younger refugee women are more likely to work whereas older women are less likely to engage in employment compared to natives.[249,250] Traditional gender norms that put burden of family care on women as they age and have children explain this phenomenon globally[251] and in the Middle-Eastern culture, including in Jordan.[202,252] However, age was not associated with African refugees women's employment in Australia, which indicates mixed findings on the relationship between refugee women's age and employment.[253] Changing gender norms in humanitarian context as rising necessity for women to earn in order to make a living might explain this phenomenon.[214]

Research among non-refugee populations on average shows that women's education is associated with women's economic activity in low- and middle-income countries but not globally.[201,219,254,255] The findings are mixed among refugee populations based on the location of resettlement. Some refugee women face challenges related to language and skill-set needed to survive and work in host countries for example African and Afghan refugees in Australia while some refugee women are able to use they education and language skills for gainful employment

as in the case of Cuban, Haitian, Nicaraguan, and Soviet/East European refugees in the United States and some humanitarian migrants in Australia.[219,249,253,256] In Arabic culture, for example in Jordan and in Egypt, women's education is significantly associated with their employment.[202,213,255] Improvement in balance of power between partners as a result of greater negotiating power provided by education and skills acquisition might explain this relationship.[202] Related to education is also refugee women's previous work experience that plays a role in employment in host countries. Research shows married women's previous employment experience is positively associated with present and future employment among non-immigrant and immigrant populations in Australia, Germany, Ghana, and Bolivia.[201,219,230,257]

Number of children is negatively associated with women's employment in immigrant and non-immigrant populations.[201,219] This association exists among women with children under the age of two and five in low- and middle-income countries and is more so stronger among traditional women compared to egalitarian because of higher value placed on women's reproductive and caretaking roles.[201–206] Having children, and moreover, young children has been associated with low economic activity among married Jordanian women.[202] Men's conservative attitude towards women's work act as a major deterrent for women's economic participation.[202]

Therefore, to examine what individual level factors are associated with Syrian refugee women's husbands' no opposition to wives' economic activity, I hypothesized that married Syrian refugee women who are younger, more educated, have previous work experience in Syria, and have a smaller number of children will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who are older, less educated, have no previous work experience in Syria, and a greater number of children.

Interpersonal factors associated with married Syrian refugee women's economic activity

A number of interpersonal factors are associated with women's employment opportunity. I include IPV experiences and head of household in this paper. Researchers have found strong associations between IPV and women's economic empowerment in refugee and non-refugee populations, particularly in traditional societies, explained by men's negative attitude towards and disapproval of wives' employment.[74,97,220–225] IPV has been recognized as a risk factor for women's economic participation among vulnerable populations globally.[226–229] In the Middle-East, IPV has been found to be associated with less economic activities mediated by anxiety and poor mental health.[258]

Women's agency in the household is another factor that is associated with women's economic activity. The literature recognizes and the theory of gender and power suggests that household's decisions depend on the power balance between husband and the wife.[259] Global research show women's bargaining power in the household is positively associated with her economic activity up to a certain extent.[230,231] Evidence from developing countries shows women who were the head of the households reported to be more empowered, suggesting the important role women's decision making power in household can have for access to economic resources.[232]

Therefore, to examine what interpersonal level factors are associated with refugee husbands' no opposition to wives' economic activity, I hypothesized that married Syrian refugee women who report no lifetime IPV and/or who report themselves as head of the households will be more

likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who report lifetime IPV and who do not report themselves as head of the households.

Societal factors associated with married Syrian refugee women's economic activity

A number of societal factors are associated with women's employment opportunity. I include governorate of origin, length of stay in Jordan (acculturation), and food insecurity (poverty) in this paper. Country and regions of immigrant women's origin have been found to be an important determinant of refugee women's economic activity.[244] Researchers have found negative impacts of traditional culture, proxied by gender wage and employment gap in countries and regions of origin, on immigrant women's LPF in host countries.[260–262] Therefore, governorate of origin was included as a control variable.

There are mixed finding on the association between length of stay in the host country and refugee women's employment and economic status.[249,253] However, studies have found positive relationship between length of stay in host country and women's economic activity among humanitarian migrants in Australia and South-east Asian refugees in Canada explained by accumulation of human capital (knowledge, language proficiency, skills, and social network) over time and change in gender norms.[214,219,263] Therefore, to examine what societal level factors are associated with refugee husbands' no opposition to wives' economic activity, I hypothesized that married Syrian refugee women who report less food insecurity and living in Jordan for a longer period of time will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who report living in Jordan for a shorter period of time.

3.4 Methods

Study Design and Sample

507 Syrian refugee women were enrolled by a clinic-based systematic sampling method between April and November 2018 for the project Advancing Solutions in Policy, Implementation, Research and Engagement for Refugees (ASPIRE). Every 3rd or 5th (depending on clinic size) participant seeking health services was screened for eligibility. Participants were eligible if they were Syrian refugees, female, 18 years or older, did not live in a refugee camp, and did not show any signs of cognitive impairment.[191] In accordance with local customs, compensation packages of daily useable goods were provided to participants. Recruitment and surveys were completed by trained research assistants in private rooms at participant health clinics. Women participated in face to face interviews on gendered health and mental health concerns, lifetime physical and sexual IPV, husbands' no opposition to wives' acceptability and feasibility of microfinance interventions and who makes financial, households and family decisions. In this paper I focused on women who were married prior to the Syrian Civil War (N=344). Study protocols were approved by Columbia University Institutional Review Board and Ethics Committee of University of Jordan prior to the start of the study.

Research questions and hypothesis

I examined the prevalence of husbands' no opposition to wives' economic activity and multi-level factors associated with husbands' no opposition to wives' economic activity among a sample of 344 married Syrian refugee women living in non-camp settings in Jordan. I also examined the association between no lifetime physical and sexual IPV and husbands' no opposition to wives' economic activity. Additionally, I examined the association between head of the households and husbands' no opposition to wives' economic activity. Finally, I examined if the relationship between no lifetime physical and sexual IPV and husbands' no opposition to wives' economic activity is mediated/strengthened by women's agency measured by if they reported themselves as head of the household.

I hypothesized that married Syrian refugee women in the sample will report an overall low prevalence of husbands' no opposition to wives' economic activity compared to general population.[13,199,200] Second, I hypothesized that married Syrian refugee women who are younger, more educated, have previous work experience in Syria, have a smaller number of children, and lived greater number of years in Jordan will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who are older, less educated, have no previous work experience in Syria, has a greater number of children, and have less number of years in Jordan. Third, I hypothesized that married Syrian refugee women who report no lifetime physical and sexual IPV will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who report lifetime physical and sexual IPV. Four, I hypothesized that married Syrian refugee women who report themselves as head of the household will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who do not report themselves as head of the households. Fifth, I also hypothesized that married Syrian refugee women who report no lifetime physical and sexual IPV as well as also report themselves as head of households will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who report lifetime physical and sexual IPV and who do not report themselves as head of households controlling for age, education, previous work experience, number of children, governorate of origin, length of stay in Jordan (acculturation), and food insecurity (poverty).

Power Analysis

Power analysis helped me determine the sample size to ensure highest probability that I correctly reject the null hypothesis that there is no difference between the two groups. I conducted post-hoc power analysis with a power calculation tool based on the Wald test and algorithms described in Demidenko (2007) and Demidenko (2008).[136,137] I used a significance level of 0.05, fixed power at 0.80, and a sample size of 344 to yield a detectable (unadjusted) odds ratio of 1.86.

Measurements

Dependent variable: Husbands' no opposition to wives' labor force participation (economic activity). Husbands' no opposition to wives' economic activity is a dichotomous variable that was measured by the question, "Would you be worried about your husband having a negative reaction to your learning a vocation if you were interested in?" Respondents who report "no" to worrying about having a negative reaction from husband to their learning of a vocation was

coded as yes to "husbands' no opposition to wives' economic activity" meaning their husbands would not oppose to their economic activity and was coded as "no" if otherwise.

Rationale for using married Syrian refugee women's reported perception of negative reaction from husbands to their learning of a vocation as a proxy for married Syrian refugee women's husbands' no opposition to wives' economic activity

Married Syrian refugee women's worries regarding husbands' negative reaction to their learning of a vocation may be used as a proxy for their husbands' no opposition to wives' economic activity in Jordan because their perception about their husbands' expectations and preferences regarding their economic activity significantly influence their economic activity, explained by culture and social and gender norms.[245,264] A 2011 study found some 36 percent of men in Amman, Jordan do not accept the idea of women working outside, suggesting that Syrian refugee women's perception is important in this context.[202] The same study showed a negative association between traditional social norms measured by household members' disapproval of women working outside the home and female labor supply.[202] Another 2019 study in Jordan showed married women's economic activity to be strongly associated with her husband's views and beliefs of working women.[265] A World Bank study also shows, the strongest correlates of married women in Jordan are their own expectations of her husband's views and the husband's personal beliefs.[265] Another World Bank study in Jordanian labor market cites gender-based norms to be a major challenge for Syrian refugee women's engagement in income generating activities.[199] Furthermore, Gavazzi et al. using panel data from the World Value Survey (WVS) found that attitudes towards a women's role in the family are statistically and economically important determinants of the employment rate of immigrant women in the United States.[266] Finally, even among non-refugee population, favorable attitude of the husband towards working women have been found to be a determining factor in female economic activity.[264,267]

Independent variables

Individual factors associated with married Syrian refugee women's economic activity are age, education, previous work experience, and number of children. Age is a continuous variable in years. Education is a dummy variable with and without reading and writing proficiency. Previous work experience is also a dummy variable measured by the question "have you ever owned or run your own business?" Number of children is recorded as an ordinal variable.

Interpersonal factors associated with married Syrian refugee women's economic activity are no lifetime physical and sexual IPV experiences and head of the households. Lifetime physical and sexual IPV is a dummy variable measured by the questions on sexual and physical IPV perpetrated by husbands using the conflict tactic scale (CTS).[149] Participants responded to 10 dichotomous yes/no questions on whether they experienced physical and/or sexual violence. Physical IPV questions included whether their current or most recent husband, had thrown, kicked, or broke something while arguing with her; pushed, kicked or pulled her hard; threatened her with a knife or another sharp implement; slapped her; attacked her with a stick, a belt, or another object of that kind; attacked her with household equipment (e.g., chair); tried to choke her or placed his arms around her neck in an attempt to harm her; pulled her hair or yanked her clothes. Sexual IPV questions included whether her husband had tried to have sexual relations

with her without her consent (against her will), and/or had sexual relations with her without her consent (against her will). No affirmative endorsements of any physical and/or sexual IPV items were dichotomized as not having experienced lifetime IPV. Head of household is two categorical variables: 1.) self and 2.) husband and others. The category "husband and others include husband, father-in-law, mother-in-law, brother-in-law, father, mother, brother, grandfather, grandmother, son, daughter, uncle, aunt, and other. Head of the household means who makes decisions related to how money is managed or spent, and other decisions related to household and family life.

Societal factors associated with married Syrian refugee women's economic activity are acculturation, governorate of origin and poverty. Time spent in Jordan is a proxy for acculturation and is recorded as a continuous variable in years. Syrian Governorates is a five categorical variable: 1.) Aleppo or Idlib; 2.) Al-Raqqah, Deir Ezzor, or Hasaka; 3.) Damascus or Rif Dimashq; 4.) As-Suwayda, Daraa, or Qunitra; and 5.) Hama or Homs. Responses to Syrian governorates were combined into fewer categories based on proximity to one another and relatedly, similarities based on region. Food insecurity, a proxy for poverty is a dummy variable measured by the question, "has your household had to rely on less preferred and less expensive foods; borrow food, or rely on help from a friend or relative; limit portion size at mealtimes restrict consumption by adults in order for small children to eat; and reduce number of meals eaten in a day in the past 30 days? Affirmative endorsements of any food insecurity items were dichotomized as experiencing food insecurity.

Data Analysis

I used univariate statistics (i.e. frequency distributions, measures of central tendency, and standard deviation) for the analytical sample (N=344) to examine the prevalence of husbands' no opposition to wives' economic activity in the sample and for all variables (Aim 1).

I performed bivariate statistical analyses to examine the association between independent variables such as age, education, number of children, previous work experience, head of household, lifetime IPV, Syrian governorate, time spent in Jordan (acculturation), and food insecurity (poverty) and the dependent variable "refugee husbands' no opposition to wives' economic activity" in Jordan" (Aim 2). First bivariate analysis shows the association between socio-demographic variables and refugee husbands' no opposition to wives' economic activity. This was to test the hypothesis that married Syrian refugee women who are younger, more educated, have previous work experience in Syria, have a smaller number of children, and lived greater number of years in Jordan will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who are older, less educated, have no previous work experience in Syria, has a greater number of children, and have less number of years in Jordan.

Second bivariate analysis shows the association between socio-demographic variables and no lifetime IPV experiences to test the hypothesis that married Syrian refugee women who report no lifetime physical and sexual IPV will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who report lifetime physical and sexual IPV

Third bivariate analysis shows the association between socio-demographic variables and head of household to test the hypothesis that married Syrian refugee women who report themselves as head of the household will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who do not report themselves as head of the households

I conducted bivariate analysis using Chi-squared tests or Fisher's exact test to calculate significant differences in categorical variables between groups, while I used t-tests to calculate significant mean differences for binary variables between two groups. All reported p-values are 2-tailed with statistical significance set at .05.

I then performed unadjusted and adjusted multivariable logistic regressions to examine the association between no lifetime IPV and refugee husbands' no opposition to wives' economic activity, association between head of household and refugee husbands' no opposition to wives' economic activity, and if being the head of household mediated the relationship between refugee husbands' no opposition to wives' economic activity among clinic attending married Syrian refugee women living in non-camp settings in Jordan (Aim 2, 3 and 4). This was conducted to test the hypothesis that married Syrian refugee women who report no lifetime physical and sexual IPV as well as also report themselves as head of households will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who report lifetime physical and sexual IPV and who do not report themselves as head of households when controlling and not controlling for age, education, previous work experience, number of children, governorate of origin, length of stay in Jordan (acculturation), and food insecurity (poverty).

For the adjusted multivariable logistic regression analysis, the selected multi-level covariates include age, education, previous work experience, number of children, head of household, governorate of origin, time in Jordan in Jordan (acculturation), and food insecurity (poverty). Logistic regressions were used for the analyses. The multicollinearity test was conducted prior to using logistic regressions. Odds ratios (OR) with a 95% confidence interval (CI) was evaluated in the bivariate and multiple analyses. All analyses were completed using STATA (version 16.0).

3.5. Results

Table 3.1. presents characteristics of women in the sample (344). The sample included 344 clinic attending married Syrian refugee women living in non-camp settings in Jordan with a mean age of 36.42 years (SD: 9.55, range: 19-67). More than two third (75.87%) of women were able to read and write with ease and difficulty and 24.13 % of women could neither read or write. The average number of children in the household was 3.85 (SD:2.04). 91.86 % of women did not have previous work experience whereas 8.14 % of them owned or ran their own business at some point in life. A little less than one-fourth of women (22.97 %) reported themselves as the head of the household; whereas more than two-thirds (77.03 %) reported their husbands and others to be the head of the household. More than half of women (55.23 %) reported having experienced IPV in their lifetime; whereas less than half of them (44.77 %) reported no lifetime experiences of

IPV. Average years lived in Jordan was 5.19 years (SD: 1.41, range: 1-17). Majority of them (93.60 %) reported experience of food insecurity (SD: 6.40).

About one-third (65.12 %) of women reported husbands' no opposition to wives' economic activity; whereas a little more than one-third (34.88 %) of them reported refugee husbands' opposition to wives' economic activity.

Table 3. 1. Sample characteristics among married Syrian refugee women in Jordan

Variables	**Total = 344** **N (%) or Mean (SD)**
Age	36.42 (9.55)
Education	
Yes	261 (75.87)
No	83 (24.13)
Number of children in the household	3.85 (2.04)
Previous work experience	
Yes	28 (8.14)
No	316 (91.86)
Head of the household (Self)	
Yes	79 (22.97)
No	265 (77.03)
lifetime IPV	
Yes	190 (55.23)
No	154 (44.77)
No lifetime IPV	
Yes	154 (44.77)
No	190 (55.23)
Husbands' no opposition to wives' Labor Force Participation Yes No	224 (65.12) 120 (34.88)
Syrian Governorate	
Aleppo or Idlib	72 (20.93)
Al-Raqqah, Deir ez-Zor, or Hasaka	41 (11.92)
Damascus or Rif Dimashq	44 (12.79)
As-Suwayda, Daraa, or Qunitra	120 (34.88)
Hama or Homs	67 (19.48)
Time in Jordan (in years)	5.19 (1.41)
Food insecurity	
Yes	322 (93.60)
No	22 (6.40)

Table 3.2. presents bivariate association between socio-demographic variables and husbands' no opposition to wives' economic activity. My hypothesis was partially supported. Socio-demographic variables such as age, education, previous work experience, head of household, and time in Jordan (acculturation) were significant in the bivariate association between socio-

demographic variables and husbands' no opposition to wives' economic activity. Women who reported husbands' no opposition to wives' economic activity were much older than women who reported husband's opposition to wives' economic activity (38 versus 33 years; *p*=0.01). Of more than one-third (65.12 %) women who reported husbands' no opposition to wives' economic activity, about three-fourth (72.32) reported having education (read and write) relative to those who report refugee husbands' opposition to wives' economic activity (72.32 versus 27.68 %; *p*=0.035). Women who reported husbands' no opposition to wives' economic activity had few children in the household than women who reported refugee husbands' opposition to wives' economic activity (3 versus 4; *p*=0.280). Of more than one-third (65.12 %) women who reported husbands' no opposition to wives' economic activity, one-tenth (10.71) reported previous work experience (*p*=0.017), about one-third (29.46 %) reported themselves as head of the household (*p*=0.00), about half of them (48.66 %) reported experiencing no lifetime IPV (*p*=0.047), about one-fifth (19.20) originate from Aleppo or Idlib, a little more than one fifth from Al-Raqqah, Deir ez-Zor, or Hasaka and Damascus or Rif Dimashq, a third (34.38) from As-Suwayda, Daraa, or Qunitra governorate, and a little more than one-fifth (23.21) from Hama or Homs governorate (*p*=0.133). Women who reported husbands' no opposition to wives' economic activity lived a little longer in Jordan (5.24 years, SD:1.51) than women who reported refugee husbands' opposition to wives' economic activity (5.24 versus 5.09 years; *p*=0.004). Of more than one-third (65.12 %) women who reported husbands' no opposition to wives' economic activity, majority of them (95.09 %) reported experiencing food insecurity relative to those who reported refugee husbands' opposition to wives' economic activity (95.09 % versus 4.91 %; *p*=0.124).

Table 3. 2. Bivariate association between refugee husband' no opposition to wives' economic activity and socio-demographic factors among married Syrian refugee women in Jordan

Variables	**Yes to no opposition to economic activity = 224 (65.12) (*N*=) x (SD) or n (%)[a]**	**No to no opposition to economic activity = 120 (34.88) (*N*=) x (SD) or n (%)[a]**	**P-Value**
Age	38.24 (9.83)	33.02 (7.99)	**0.012****
Education			
Yes	162 (72.32)	99 (82.50)	**0.035****
No	62 (27.68)	21 (17.50)	
Number of children in the household	3.63 (2.08)	4.27 (1.90)	0.280
Previous work experience			
Yes	24 (10.71)	4 (3.33)	**0.017****
No	200 (89.29)	116 (96.67)	
Head of the household (Self)			**0.000*****
Yes	66 (29.46)	13 (10.83)	
No	158 (70.54)	107 (89.17)	

No lifetime IPV			**0.047****
Yes	109 (48.66)	45 (37.50)	
No	115 (51.34)	75 (62.50)	
Syrian Governorate			0.133
Aleppo or Idlib	43 (19.20)	29 (24.17)	
Al-Raqqah, Deir ez-Zor, or Hasaka	23 (10.27)	18 (15.00)	
Damascus or Rif	29 (12.95)	15 (12.50)	
Dimashq	77 (34.38)	43 (35.83)	
As-Suwayda, Daraa, or Qunitra	52 (23.21)	15 (12.50)	
Hama or Homs			
Time in Jordan (in years)	5.24 (1.51)	5.09 (1.20)	**0.004***
Food insecurity			0.124
Yes	213 (95.09)	109 (90.83)	
No	11 (4.91)	11 (9.17)	

*$P \leq 0.05$, economic activity, Labor Force Participation

Table 3.3. bivariate association between socio-demographic variables and no lifetime IPV experiences. Age, husbands' no opposition to wives' economic activity, and time in Jordan were significant in this bivariate association. Of the less than half (44.77 %) of women who did not experience lifetime IPV, more than one-third (70.8 %) of women reported husbands' no opposition to wives' economic activity relative to those who reported lifetime IPV experience (70.78 % versus 29.22 %; P=0.05).

Table 3. 3. Bivariate association between no lifetime IPV and socio-demographic factors among Syrian refugee women in Jordan

Variables	**Yes to no lifetime IPV = 154 (44.77) (*N*=) x (SD) or n (%)[a]**	**No to no lifetime IPV = 190 (55.23) (*N*=) x (SD) or n (%)[a]**	**P-Value**
Age	37.94 (10.39)	35.18 (8.64)	**0.016****
Education			
Yes	115 (74.68)	146 (76.84)	0.640
No	39 (25.32)	44 (23.16)	
Number of children in the household	3.77 (2.17)	3.92 (1.94)	0.130
Previous work experience			
Yes	12 (7.79)	16 (8.42)	0.832
No	142 (92.21)	174 (91.58)	
Head of the household (Self)			0.146
Yes	41 (26.62)	38 (20.00)	
No	113 (73.38)	152 (80.00)	
Labor Force Participation			**0.047***
Yes	109 (70.78)	115 (60.53)	
No	45 (29.22)	75 (39.47)	

Syrian Governorate			0.641
Aleppo or Idlib	31 (20.13)	41 (21.58)	
Al-Raqqah, Deir ez-Zor, or Hasaka	20 (12.99)	21 (11.05)	
Damascus or Rif Dimashq	22 (14.29)	22 (11.58)	
As-Suwayda, Daraa, or Qunitra	56 (36.36)	64 (33.68)	
Hama or Homs	25 (16.23)	42 (22.11)	
Time in Jordan (in years)	5.06 (1.25)	5.29 (1.25)	**0.009***
Food insecurity			0.066
Yes	140 (90.91)	182 (95.79)	
No	14 (9.09)	8 (4.21)	

**P*≤0.05, IPV, intimate partner violence

Table 3.4. present bivariate association between socio-demographic variables and head of household. Previous work experience, husbands' no opposition to wives' economic activity, and governorate were significant in this bivariate association. Of the more than one-fifth (22.97 %) of women who reported themselves as head of household, more than four-fifth (83.54 %) of women reported refugee husbands' no opposition to wives' economic activity relative to those who did not report themselves as head of the households (83.54 % versus 16.46 %; P=0.000).

Table 3. 4. Bivariate association between head of household and socio-demographic factors among Syrian refugee women in Jordan

Variables	**Yes HH = 79 (22.97) (*N*=) x (SD) or n (%)[a]**	**No HH =265 (77.03) (*N*=) x (SD) or n (%)[a]**	**P-Value**
Age	40.72 (9.80)	35.13 (9.10)	0.412
Education			
Yes	57 (72.15)	204 (76.98)	0.379
No	22 (27.85)	61 (23.02)	
Number of children in the household	3.19 (2.22)	4.05 (1.95)	0.147
Previous work experience			
Yes	12 (15.19)	16 (6.04)	**0.009****
No	67 (84.81)	249 (93.96)	
lifetime IPV			0.146
Yes	38 (48.10)	152 (57.36)	
No	41 (51.90)	113 (42.64)	
Labor Force Participation			**0.000*****
Yes	66 (83.54)	158 (59.62)	
No	13 (16.46)	107 (40.38)	
Syrian Governorate			**0.047***
Aleppo or Idlib	9 (11.39)	63 (23.77)	
Al-Raqqah, Deir ez-Zor, or Hasaka	9 (11.39)	32 (12.08)	

Damascus or Rif Dimashq	7 (8.86) 36 (45.57)	37 (13.96) 84 (31.70)	
As-Suwayda, Daraa, or Qunitra Hama or Homs	18 (22.78)	49 (18.49)	
Time in Jordan (in years)	5.10 (1.45)	5.22 (1.40)	0.730
Food insecurity			0.978
Yes	74 (93.67)	248 (93.58)	
No	5 (6.33)	17 (6.42)	

*$P \leq 0.05$, HH, Head of household

Table 3.5 presents unadjusted and adjusted multivariable logistic regressions of associations between no lifetime IPV and refugee husbands' no opposition to wives' economic activity, association between head of household and economic activity, and if being the "head of household" mediates the relationship between no lifetime IPV and refugee husbands' no opposition to wives' economic activity among clinic attending married Syrian refugee women living in non-camp settings in Jordan. My hypothesize that married Syrian refugee women who report no lifetime experiences of IPV will be more likely to report positive husbands' no opposition to wives' economic activity compared to married Syrian refugee women who report lifetime experiences of IPV was supported. In both the unadjusted odds ratio (OR=1.58 95% confidence interval, CI=1.00-2.48) and adjusted odds ratio (aOR=1.60, 95% CI=0.98-2.563) models, not experiencing lifetime IPV were associated with increased odds of husbands' no opposition to wives' economic activity.

My hypothesis that married Syrian refugee women who report themselves as head of the household will be more likely to report husbands' no opposition to wives' economic activity compared to married Syrian refugee women who do not report themselves as head of the households was also supported. In both the unadjusted odds ratio (OR=3.44 95% confidence interval, CI=1.80-6.54) and adjusted odds ratio (aOR=2.65, 95% CI=1.33-5.29) models, women who reported themselves as head of the households were associated with increased odds of husbands' no opposition to wives' economic activity.

In addition, my hypothesis that married Syrian refugee women who report no lifetime experiences of IPV as well as who report themselves as head of households will be more likely to report refugee husbands' no opposition to wives' economic activity compared to married Syrian refugee women who report lifetime experiences of IPV and who do not report themselves as head of households was also supported. In both the unadjusted odds ratio (OR=7.97 95% confidence interval, CI=2.40-26.40) and adjusted odds ratio (aOR=5.82, 95% CI=1.66-20.40) models, women who reported no IPV experiences as well as who reported themselves as head of the households were associated with increased odds of husbands' no opposition to wives' economic activity relative to women who reported lifetime IPV experiences and who did not report themselves as the head of households.

Table 3. 5. Unadjusted and adjusted multivariable logistic regression: associations between no lifetime IPV and refugee husbands' no opposition to wives' economic activity, association between head of household and refugee husbands' no opposition to wives' economic activity, and head of household moderating the relationship between no lifetime IPV and refugee husbands' no opposition to wives' economic activity among Syrian refugee women in Jordan

Variable	N (%)	OR (95% CI)	AOR[A] (95% CI)
No lifetime IPV (N=344)	190 (55.23)	**1.58 (1.00, 2.48)***	**1.60 (0.98, 2.63)***
No (Reference Category)	154 (44.77)		
HH (344)	79 (22.97)	**3.44 (1.80, 6.54)*****	**2.65 (1.33, 5.29)****
No (Reference Category)	265 (77.03)		
No lifetime IPV * HH	41 (11.92)	**7.97 (2.40, 26.40)*****	**5.82 (1.66, 20.40)****
No (Reference Category)	303 (88.08)		

[A] Adjusted for age, education, head of household, number of children, Syrian governorate, time spent in Jordan, and food insecurity

**P*<0.05, IPV, intimate partner violence; OR, odds ratio; CI, confidence interval

3.6 Limitations

There are several limitations to this study. First, using married Syrian refugee women's reported husbands' opposition to their learning of a vocation as a proxy for refugee women's husbands' opposition to their economic activity come with challenges given it is not an actual negative reaction from husbands but a perceived one. It should be noted it is the wife's perception of her husband's attitude that is being measured here, which is an important indicator of married Syrian refugee women's economic activity and a contribution to this field of work. Second, IPV was measured using CTS, which even though is a validated measure actually does not explore the severity and frequency of IPV and/or the reason behind those violent experiences yet provides us with the information that incidences of violence took place. Third, the variable "head of household" does not provide an option of joint family and financial decision making, which limits more nuanced analysis. Forth, the cross-sectional design of this study limits the ability to draw causal inferences, and associations should be treated without consideration of temporality. Fifth, given the sensitivity of the topics, results must be used with caution. Sixth, the data lacks characteristics of male partners. Seventh, the sample will not be representative of the entire refugee and asylum-seeking population since the sample was recruited from the health-care seeking population. Therefore, the findings cannot be generalized. However, they are representative of care-seeking populations. Finally, the study examines Syrian refugee women's husbands' no opposition to wives' economic activity in the context of heterosexual relationships.

Discussion

In paper three, 65.12 % of women reported husbands' no opposition to wives' economic activity and 34.88 % of them reported refugee husbands' opposition to wives' economic activity. These findings are consistent with the study that shows that married refugee women particularly in

Arab region, including Jordan, may face societal barriers because of traditional culture, values and gender norms that lower the tendency of women to enter into the job market.[213–216] A study estimates that unemployment of Syrian refugee women in Jordan is estimated at 83.3%.[13] In traditional societies, including Jordan and Syria, men's negative attitude towards and disapproval of wives' employment might explain this relationship.[74,97,220–225]

This study sheds light on how not experiencing lifetime IPV and refugee women having household decision making power is associated with increased odds of husbands' no opposition to wives' economic activity. In this study, Syrian refugee women who reported no lifetime IPV experiences were more likely to report husbands' no opposition to wives' economic activity compared to women who reported lifetime IPV experiences. Research shows that IPV has been recognized as a risk factor for women's economic participation among vulnerable populations globally.[226–229] In the Middle-East, IPV among women has been found to be associated with less economic activities mediated by anxiety and poor mental health.[258] Therefore, the study underscores that investment in IPV prevention and treatment could also benefit women's economic empowerment.

Additionally, paper three found that refugee women who reported themselves as head of the households were also associated with increased odds of husbands' no opposition to wives' economic activity compared to refugee women who did not report themselves as head of the households. This finding is consistent with the research that suggests women's agency and financial and household decision-making power at home to be a protective factor for her economic activity globally.[230,231]

Finally, in paper three married refugee women who reported no IPV experiences as well as who reported themselves as head of the households were associated with increased odds of husbands' no opposition to wives' economic activity compared to refugee women who reported lifetime IPV experiences and who did not report themselves as the head of the households. This finding is consistent with the research suggesting that women's bargaining power in the household along with no IPV experiences is positively associated with her economic activity up to a certain extent.[230,231] There are studies that examine the relationship between IPV and women's economic empowerment as well as the relationship between women's decision making agency and women's economic empowerment. Paper three contributes to the literature on how refugee women's increased agency and magnify the positive relationship between refugee women's no IPV experiences and economic empowerment.

3.7 Implications for social policy and practice

Refugee women's low economic activity poses huge social, economic and health cost.[13] The prevalence of Syrian refugee women's husbands' no opposition to wives' economic activity will not only allow cross comparisons of economic activity among refugee populations worldwide for researchers and global actors but also, signify the severity of an economic and gender issue to the policy makers, international organizations, social workers, and the government of Jordan. This might help advocate for women refugees to participate in economic activities.

Most studies focusing on factors such as access to the job market, work permits, education, language skills, and discrimination when examining barriers to refugee women's economic activity.[13] The findings of this paper shed light on the linkage between no IPV experiences and refugee husbands' no opposition to wives' economic activity as well as if this linkage is mediated by women's agency with regard to household and financial decision making, which has not been studied in the past. This study could inform economic empowerment interventions in light of shared sexual power between refugee husbands and wives. Women's economic participation does not exist in vacuum, instead it operates in a social environment. This paper studies the protective factors i.e. her decision-making agency and lack of IPV experiences associated with her husbands' no opposition to her economic activity, which is useful in developing culturally appropriate economic empowerment and social behavioral interventions.

The paper measures refugee husbands' no opposition to wives' economic activity in the context of forced migration proxied by Syrian refugee women's perception of their husbands' reactions to their vocational learning opportunity, which is an important indicator for developing an intervention to increase Syrian refugee women's economic activity. When building economic empowerment interventions, traditional gender norms should not be neglected.[259] Interventions that are able to shift these gender norms surrounding agency and power may serve useful in increasing women's economic activity.

A better understanding of refugee women's environment in which her economic participation takes place sheds light on gender and social norms, which have important implications for the integration of risk informed economic empowerment interventions in humanitarian programs and services in conflict settings.[202] Refugee women's economic participation in a host country also enables social integration,[268–270] which is important for social cohesion in the society.

Implication For future research

There are limited studies that examine the factors associated with women's economic activity in refugee settings with most using cross-sectional datasets. There is a need of a systematic review for studies on association between IPV and women's economic activity as well as on how women's agency translates into their economic activity in refugee settings in the context of existing IPV experiences. There are many studies that have looked at structural and institutional barriers as well as identified social norms as a barrier to women's economic activity, however many of these do not delve into mechanisms through which norms influence behavior nor do they explore intra-household dynamics in a measurable way.[252] Longitudinal data will support such analyses.

With regard to measurements, economic empowerment studies measure women's agency in terms of who makes household and financial decisions at home. Better measures of women's agency must be developed to examine women's access to resources in order to examine how that influences sexual power between them and their husbands and if and how balance of power between partners expand women's economic opportunities. Measure of emotional and other types of violence should also be included in future studies to examine the relationship between forms of violence and women's economic activity.

Gender-based power in a sexual relationship has been long identified as a determinant of women's economic participation.[202] Gender-based power relations can have been measured by differences in age, education, employment, income, resources, communication, and knowledge/skills between partners in heterosexual relationships.[197] Future research could focus on developing measures of power relations in gender-based attitude on women's LPF for populations and including partner's characteristics in examining the factors associated with women's economic activity.

Women's economic activity is context specific driven by economic needs, culture, gender norms, and amount of household responsibilities.[202,233] Most economic empowerment interventions might put pressure on women to not only acquire the skills but also to remove cultural barriers that prohibit their economic participation. In this context, interventions that positively influences husbands' attitudes towards wives' employment should be studied. Also, certain economic policies like cash transfer and vocational trainings in humanitarian situations have been associated with IPV.[271] Therefore, utmost attention needs to be given to multi-level interventions that not only empowers women but also removes societal barriers given the negative consequences of women empowerment strategies in conflict settings.

Conclusion: Major findings and implication for social work policy, practice and research

Summary of key findings

The three-paper dissertation confirms to a large extent that IPV, contraceptive use, and women's economic engagement in humanitarian situations are gendered issues that require in-depth scientific investigation. In paper 1, I found about one-third (28.30 %) of refugee women having experienced lifetime IPV. My hypotheses were partially supported in paper 1. Women marital status, contraceptive use, and food insecurity were prominent factors influencing refugee women's IPV experiences. Widowed, separated, and divorced refugee women were significantly more likely to report lifetime IPV experiences relative to women who reported themselves as married at time of survey [OR: 2.56, 95% CI: 1.09, 6.03] compared to women did not report lifetime IPV experience in the adjusted multivariable logistic model, rejecting my hypothesis. I had hypothesized that married refugee women would be more likely to experience lifetime IPV compared to unmarried refugee women. Also, in line with my hypothesis, women who reported using permanent methods of contraceptives were significantly more likely to report lifetime IPV experiences than no contraceptive use [0R: 8.70, 95% CI: 1.95, 38.64] compared to women who did not report lifetime IPV experiences in the adjusted multivariable logistic model. In line with my hypothesis, women who reported themselves as being food insecure were more likely to report lifetime IPV experiences than no food insecurity [OR: 0.40, 95% CI: 0.18, 0.89] compared to women who did not report lifetime IPV experiences in the adjusted multivariable logistic model. I could not test the hypothesis that refugee women who have experienced lifetime GBV are more likely to experience lifetime IPV compared to women who have not experienced lifetime GBV on the road, in a refugee or IDP camp, and/or in another village when in Malaysia

due to small sample size. Additional data collection and research is required to explore the association between GBV and IPV.

In Paper 2, I found about two-fifth (38.44%) of women using female controlled MSM (IUDs, injectables, pills, and implants), a little more than one-tenth (11.73%) reported using male involved contraceptives (male condoms), and half of them (49.84%) reported using no contraceptives (includes natural methods and no forms of contraceptive methods). My hypotheses were partially supported in paper 2 as well. Women who were married prior to the age of 18 years were significantly more likely to report female controlled MSM of contraceptive use than no MSM of contraceptive use at time of survey [RRR: 1.83, 95% CI: 1.07, 3.13] compared to women who were married past 18 years of age in the adjusted multinomial logistic model, supporting my hypothesis. However, the relationship between early marriage and male involved contraceptive was not significant, rejecting my hypothesis. Women with children under the age of five were less likely to report male involved MSM of contraceptive use than no MSM of contraceptive use [RRR: 0.32, 95% CI: 0.12, 0.84] compared to women with children older than five years of age in the adjusted multinomial logistic model. Women who reported reproductive health care services received in the past six months were significantly more likely to report female controlled MSM of contraceptive use than no MSM of contraceptive use [RRR: 2.21, 95% CI: 1.98, 3.80] compared to women who reported not receiving reproductive health care services in the past six months in the adjusted multinomial logistic model. Contrary to my hypothesis, women who reported themselves as head of household were less likely to report female controlled MSM of contraceptive use than no MSM of contraceptive use [RRR: 0.40, 95% CI: 0.18, 0.89] compared to women who reported their husbands or family members as head of households in the adjusted multinomial logistic model. These results signify the vitality of social norms, family structures, and accessibility of reproductive health services with regard to women's contraceptive use and behaviors. Further analysis needs to be done to segregate the effects of physical and sexual IPV on contraceptive use.

In paper 3, I found that about one-third (65.12 %) of women reported husbands' no opposition to wives' economic activity. My hypothesis was partially supported in bivariate and multivariable logistical regression analysis in paper 3 as well. Of the less than half (44.77%) of women who did not experience lifetime IPV, more than one-third (70.8%) of women reported husbands' no opposition to wives' economic activity relative to those who reported lifetime IPV experience (70.78% versus 29.22%; P=0.05), supporting my hypothesis. Of the more than one-fifth (22.97%) of women who reported themselves as head of household, more than four-fifth (83.54 %) of women reported husbands' no opposition to wives' economic activity relative to those who did not report themselves as head of the households (83.54% versus 16.46%; P=0.000) in line with my hypothesis. In both the unadjusted (OR=1.58 95% confidence interval, CI=1.00-2.48) and adjusted (aOR=1.60, 95% CI=0.98-2.563) models, not experiencing lifetime IPV were associated with increased odds of husbands' no opposition to wives' economic activity. Similarly, in both the unadjusted odds ratio (OR=3.44 95% confidence interval, CI=1.80-6.54)

and adjusted odds ratio (aOR=2.65, 95% CI=1.33-5.29) models, women who reported themselves as head of the households were associated with increased odds of husbands' no opposition to wives' economic activity in line with my hypothesis. Likewise, in both the unadjusted (OR=7.97 95% confidence interval, CI=2.40-26.40) and adjusted (aOR=5.82, 95% CI=1.66-20.40) models, women who reported no IPV experiences as well as who reported themselves as head of the households were associated with increased odds of husbands' no opposition to wives' economic activity relative to women who reported lifetime IPV experiences and who did not report themselves as the head of the households. These results signify the importance of women's agency in household and financial decision making and how it extends to her economic engagement opportunities. Women's status in the household and in the society and her IPV experiences are significant factors associated with her economic participation in host country. Further analysis needs to be conducted with regard to policies that create an enabling environment for refugee women to engage in income-generating activities in host countries.

Overall research limitations

The cross-sectional data used in all the three papers and the temporality of events limit the ability to draw casual inferences. In all the paper, data does not capture women's preferred method and effectiveness of contraceptive use and severity of IPV. Physical and sexual IPV could not be segregated due to small cell size. Including women only to explore their IPV experiences from the sample for paper 1 further decreased the sample size, which did not allow me to study factors associated with GBV. Sexually active women could also not be examined and thus, the whole sample had to be included in the study. Further restriction criteria to include only married women to study their contraceptive use and economic engagement in paper 2 and 3 decreased the sample size for these two studies as well. Women's health and livelihood experiences are sensitive topics that require cautious interpretation of results. All the papers lack characteristics of male partners, however, women's experiences in her social environment provide significant insight into the topic being explored in this dissertation. Male involved contraceptive use could not be separated from overall MSM of contraceptive use due to small cell size, limiting the gendered analysis of contraceptive use. Similarly, further analysis on factors associated with each type of MSM like pills, IUDs, injectables, and implants could not be performed due to limited sample. The sample is not be representative of the entire refugee and asylum-seeking population since both the samples were recruited from the health-care seeking population. However, it provides us a sense of characteristics of refugee populations originating from different countries. All three papers examine women's issues in heterosexual relationships.

Overall significance and innovation

Implications for social policy and practice, limitations, and implications for future research for each dissertation paper are described in their respective sections. In totality, the dissertation has vital implications for evidence-based policy and practice in three main areas of gender inequities of health and well-being— IPV, contraceptive use, and economic empowerment among refugee women living in Jordan and Malaysia.

Three papers contribute to the literature in several ways. First, the problems of refugee women's IPV experiences, low, inconsistent, and ineffective use of contraceptives, and low economic participation and its associated factors need additional research and attention.

Second, varied datasets are required to thoroughly understand the associations between multi-level factors and problems of IPV, low, inconsistent, and ineffective use of contraceptives, and low economic engagement among refugee populations. This dissertation utilizes Malaysian quantitative data conducted in 2018 that examined IPV experiences and healthcare needs of urban refugees and asylum seekers living in Malaysia to study multi-level factors associated with IPV. It also uses Women ASPIRE (Advancing Solutions in Policy, Implementation, Research and Engagement for Refugees) dataset, a quantitative study conducted in 2018 that examined gendered inequities of health of Syrian refugee women living in non-camp settings in Jordan to study multi-level factors associated with MSM of contraceptive use and women's economic engagement.

Third, all three papers integrate theory of gender and power at each level of the social ecology informed by Bronfenbrenner's ecological framework used to understand IPV, contraceptive use, and economic engagement among these unique sets of understudied refugee populations. Therefore, application of theory in each section of the paper (literature review, data analysis, interpretation of results) contributes to the literature in a unique way.

Fourth, the dissertation addresses several gaps in the literature. It contributes to the increased need of understanding of prevalence rates of IPV (paper 1), contraceptive use (paper 2), husbands' opposition to wives' economic engagement (paper 3) and associations between MSM and IPV (paper 1), between early marriage and MSM (paper 2), between IPV and MSM (paper 2), between IPV and economic engagement (paper 3), and between IPV and women's agency and economic engagement (paper 3). Thus, this dissertation makes descriptive and correlative contributions to social work practice, policy, and research related to complicated, intersecting social justice issues of gendered inequities of health and well-being. It informs health, sexual and reproductive health, social norms, and economic empowerment interventions.

Overall implications for social work policy, practice and future research

All three papers on IPV, contraceptive use, and women's economic participation shed light on how women's societal, interpersonal, and personal environment hinders as well as protects her health and well-being in humanitarian situations. The high rates of IPV among Afghan, Somalian, Syrian and other refugee women found in both the datasets implies the need to enhance IPV prevention and treatment policies and practices. Lower use of effective contraceptives by women in refugee settings found in both the dataset signals vitality of increasing access to contraception. Women's status in her society that is measured by her marital status could be a risk in interpersonal relationships. In addition, her contraceptive behavior is also influenced by her environment, which further influences her IPV experiences. Women's contraceptive behavior is also influenced by her age at marriage and household size in addition to her own agency and accessibility and availability of reproductive health services. Poverty is

another main issue in low resource settings that severely impacts women's IPV experiences and contraceptive use. In humanitarian settings, it propels women to engagement in economic activities as well, which challenges traditional gender norms. Probably that was the reason why I found higher percentages of Syrian refugee women reporting that they husbands would not have a negative reaction to their learning of an income-generating vocation. This result was correlated with Syrian refugee women's agency to make household and financial decisions and her lack of IPV experiences signaling the importance of women's overall economic and societal empowerment. Therefore, these findings inform IPV, sexual and reproductive health, economic empowerment, and poverty reduction interventions for social policy, practice, and research.

Even though strong and validated instruments were used and adjusted for culture and language to measure IPV, contraceptive use, early marriage, women's economic engagement and social norms around it, women's agency, poverty, acculturation, and food insecurity in this dissertation, these measurements could be strengthened in the future research. Instruments to measure power dynamics between couples must be harnessed when studying women's health and well-being. It is important to parse out types of IPV in future studies using longitudinal datasets. The directionality of contraceptive use and IPV also needs further investigation. Women's economic engagement must be further explored in light of her interpersonal connections with broader family members and the society. These studies have huge potential in informing policy reforms, poverty alleviation, social welfare, education, health, sexual health, cash transfer, economic empowerment, and IPV programs, family and couple counseling, technology facilitation, mass media campaigns, and gender attitude change programs in humanitarian settings.

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