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**WOMEN EMPOWERMENT AND CORRELATES:
EVIDENCES FROM THE 2017 NATIONAL DEMOGRAPHIC AND HEALTH SURVEY**

By

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ABSTRACT

The Philippines has made significant strides in elevating awareness on gender equality as evidenced by women empowerment in the country. Results of the 2017 National Demographic and Health Survey (NDHS) showed that a large majority, almost eight (8) in every 10 women age 15 to 49 years make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care. This is a positive development especially in relation to ensuring universal access to sexual and reproductive health and reproductive rights (Target 5.6.1). This is in line with Goal 5 of gender equality and empowerment all women and girls under the of the Sustainable Development Goals (SDGs).

Using data from the NDHS 2017, the study further looked at the characteristics of women gaining empowerment and correlate it with selected health outcomes (such as antenatal visits, skilled birth attendant at delivery, child immunization, etc.). Twelve thousand five hundred twenty (12,520) currently married women age 15-49 who completed the domestic violence module were identified for this study. A composite Women Empowerment Index (WEI) was developed based on nine variables: (1) education, (2) employment for cash, (3) control over one's own cash earnings, (4) control over men's earnings, (5) ownership of house or lot, (6) has and uses a bank account, (7) mobile phone ownership, (8) household decision-making, and (9) attitude towards wife-beating. The WEI was classified into three (3) empowerment levels, whereby 42, 24, and 34 percent of married women were in high, moderate, and low empowerment levels, respectively.

Fourteen percent of women reported having experienced spousal violence (either physical and/or sexual) during their lifetime. Bivariate analysis shows that as women empowerment increases in level, the odds of having experienced spousal violence significantly decreases, even after adjusting for age, residence, wealth index and number of living children. Programs and policies should also look into the economic status and fertility levels of women as evidenced by the effects of wealth index and number of living children on spousal violence.

Utilization of four (4) or more antenatal care visits was significantly greater for highly empowered women, even after adjusting for spousal violence and socio-demographic characteristics. Evidence also shows that children of women who had experienced spousal violence had a lower chance of being immunized, even after controlling other factors. Children who had a fever whose mother had experienced spousal violence has a significantly greater chance that they seek treatment or advice for their children's fever.

This study has succeeded in examining the relationship of women empowerment and spousal violence to selected health outcomes and service utilization. Positive health outcomes are associated with high levels of empowerment and the absence of spousal violence. Hence, policies and programs that promotes women empowerment and reduction of spousal violence incorporated to education, economy and health will have a substantial effect to Filipino women and children.

I. INTRODUCTION

The 2017 NDHS included a module on domestic violence to measure the prevalence of gender-based violence experienced by women of reproductive age in the Philippines at the national level. The survey presented the prevalence of gender-based violence and spousal violence by background characteristics of the women, frequency of violence, the onset of marital violence,

and injuries to women due to spousal violence, help-seeking to stop violence, and sources where women sought help. However, the 2017 NDHS report did not offer a detailed assessment of how the empowerment levels of women influence gender-based violence and ultimately health outcomes. Studies carried out in India and African countries have established relationships between women empowerment, gender-based violence, and health outcomes. However, women empowerment is contextual and multidimensional in nature, the association between women empowerment, the experience of violence, and health outcomes might or might not follow the same patterns in the various countries studied. Hence, it is important to study these relationships in the Philippine context. This further analysis of data from the 2017 NDHS, therefore, examines the relationship between women empowerment, spousal violence, and selected health outcomes of women and their children, in the Philippines.

The Demographic and Health Survey (DHS) Woman's Questionnaire collects data on the general background characteristics of female respondents (e.g., age, education, wealth quintile, and employment status). Moreover, the Woman's Questionnaire also contains data on receipt of cash earnings, the magnitude of a woman's earnings relative to those of her husband, control over the use of her own earnings and those of her husband. These data are all known correlates of women empowerment and gender-role attitudes (Hindin, 2003). In particular, age, education, media exposure, and employment for cash are all potential sources of empowerment, whereas marital and household characteristics, such as age at first marriage, spousal age difference, nuclear family and urban residence, and wealth, are aspects of the setting for empowerment because they reflect the opportunities available to women (Kishor, 2000).

There are several cogent and pressing reasons for evaluating, promoting and monitoring the level of women empowerment in a country, not the least of which is that household health and nutrition are generally in the hands of women. Hence, women empowerment is necessary for ensuring their own welfare, as well as the well-being of their households. Empowerment of women is also critical for the development of a country because it enhances both the quality and quantity of human resources available for development. (Kishor and Subaiya, 2008)

Furthermore, the success of development efforts depends on the fruits of development reaching men and women, boys and girls (World Bank, 2001).

Henceforth, it is imperative to determine how "empowerment" is defined. For this study, empowerment is defined as the process by which the powerless gain greater control over the circumstances of their lives. It includes both control over resources and over ideology... [and includes, in addition to extrinsic control] a growing intrinsic capability—greater self-confidence, and an inner transformation of one's consciousness that enables one to overcome external barriers..” (Sen and Batliwala, 2000).

Since 2008, the Philippine National Demographic and Health Surveys (NDHS) have been collecting information on three sets of women empowerment variables that qualify as evidence of empowerment in Kishor's framework (2000): one that measures women's participation in decision-making and two others that measure women's acceptance of gender-role norms that endorse the control of women by men

II. METHODOLOGY

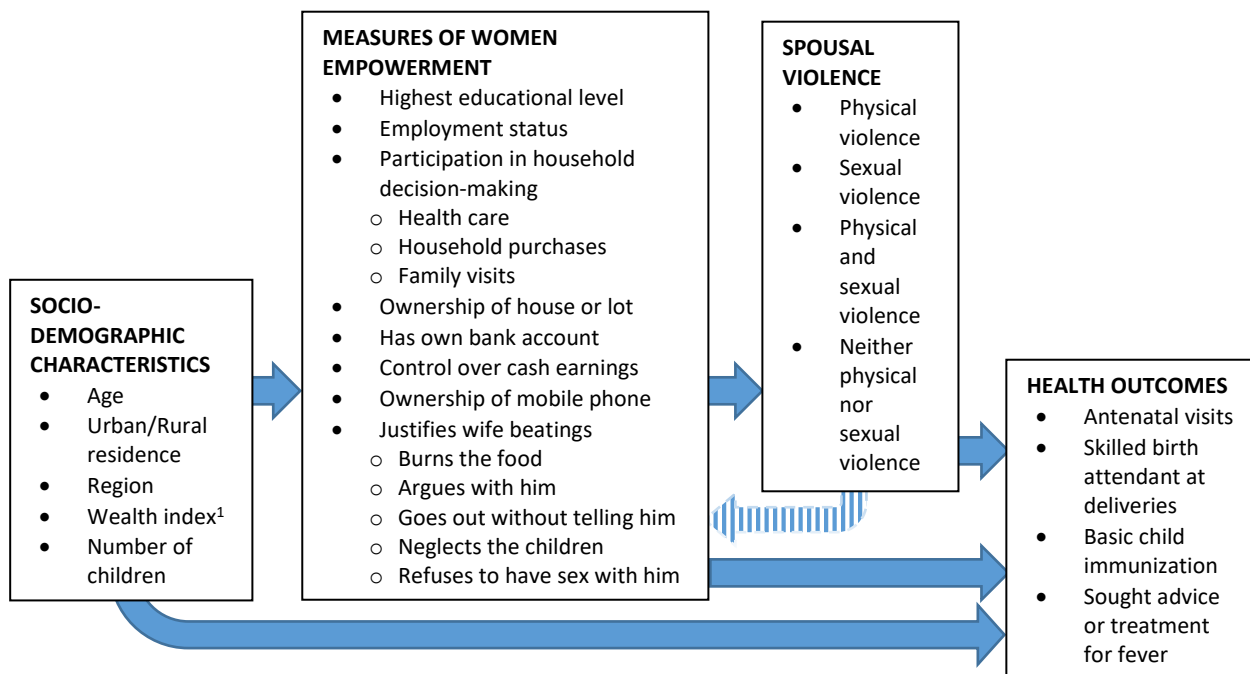
The study used the dataset from the 2017 Philippines National Demographic and Health Survey (NDHS). The 2017 NDHS was the sixth Demographic and Health Survey conducted in the Philippines as part of The Demographic and Health Surveys (DHS) Program and the 11th national demographic survey conducted since 1968. The NDHS was a nationally representative, cross-sectional survey of demographic and health indicators of women members of their households, which was implemented by the Philippine Statistics Authority, with technical assistance from ICF in Maryland, USA. A two-stage cluster sampling design (1,250 clusters, 16-25 household per cluster) was stratified by urban and rural residence in 17 regions of the country. The 2017 NDHS also included a Woman's Safety Module designed to collect information on domestic violence. Only one (1) eligible woman per household was selected to receive this module. In households

with more than one (1) eligible woman, one (1) respondent was randomly selected. The module can be administered only if complete privacy can be obtained; among the women eligible, less than 1% could not be interviewed because privacy could not be attained.

The focus of this study was information from the domestic violence module of the 2017 NDHS. The survey sample includes a total of 12,520 currently married women age 15-49. The sample was restricted, however, because some indicators used to calculate the women empowerment index are only available for currently married women, and only those who were successfully administered the domestic violence module. The study results include descriptive statistics, and the estimation of the odds ratio (OR) and the 95% confidence interval (CI) calculated with multivariable logistic regression analyses and a confounder's adjustment for the sampling design.

A. CONCEPTUAL FRAMEWORK AND KEY VARIABLES

This study uses the lifetime experience of spousal violence among currently married women age 15-49 both as an outcome of women empowerment, and a mediating factor between empowerment and health outcomes.



Several key characteristics of women are classified by Kishor (2000) as either potential sources of empowerment (educational attainment and employment for cash) or variables that capture aspects of setting for empowerment (age, region). The setting indicators focus on the circumstances of women's lives and reflect the opportunities available to women. Urban residence, with its increased opportunities for exposure to new ideas, and wealth, with its potential for increased access to all types of resources, can also be considered variables that capture aspects of the setting for empowerment (Kishor and Subaiya, 2008).

This study also uses a binary summary measure to capture the experience of spousal violence, comparing women who ever experienced either physical or sexual violence to women who have not experienced either. More specifically, violence committed by the current husband/partner

¹ In deriving wealth index, households are given scores based on the number and kinds of consumer goods they own, ranging from a television to a bicycle or car, and housing characteristics such as source of drinking water, toilet facilities, and flooring materials. These scores are derived using principal component analysis. National wealth quintiles are compiled by assigning the household score to each usual (de jure) household member, ranking each person in the household population by her or his score, and then dividing the distribution into five equal categories, each comprising 20% of the population.

(for currently married women) and by the most recent husband/partner (for formerly married women) was measured by asking all ever-married women if their husband/partner ever did the following to them:

- **Physical spousal violence:** push you, shake you, or throw something at you; slap you; twist your arm or pull your hair; punch you with his fist or with something that could hurt you; kick you, drag you, or beat you up; try to choke you or burn you on purpose; or threaten or attack you with a knife, gun, or any other weapon
- **Sexual spousal violence:** physically force you to have sexual intercourse with him even when you did not want to, physically force you to perform any other sexual acts you did not want to, or force you with threats or in any other way to perform sexual acts you did not want to

The study also seeks the relationship of maternal and child health outcomes, particularly on the following indicators:

- Recommended four or more antenatal care (ANC) visits during her last pregnancy
- Skilled birth attendant (SBA) during her last delivery
- All basic vaccinations age 12-23 months
- Post-natal care visits for both mother and child

Health care services during pregnancy and childbirth and after delivery are important for the survival and well-being of both the mother and the infant. The Philippines Department of Health (DOH) recommends a focused antenatal care approach comprising four (4) visits (one (1) in the first trimester, one (1) in the second trimester, and two (2) visits in the third trimester at two (2)-week intervals) for healthy women with no underlying problems. Eighty-seven percent of women had four (4) or more ANC visits for their most recent birth. The DOH recommends skilled assistance during delivery to ensure that the pregnant woman and the newborn are managed properly. The DOH has deployed doctors, midwives, and nurses through the Doctors to the *Barrios*, Midwife Deployment, and Nurse Deployment programs, respectively, to fill in gaps in staffing in local government units (LGUs). Also, both staff deployed by the DOH and LGU health staff undergo training specifically for the management of pregnant women and newborns. Eighty-four percent of births in the five (5) years preceding the survey were delivered by a skilled provider (PSA and ICF, 2018).

The DOH recommends at least two (2) postnatal checks for all postpartum women. After the mother is discharged from the facility, the first postnatal check should take place within 72 hours after birth, and the second check should take place seven (7) days after birth. The purpose of these visits is timely detection of bleeding or infections, provision of vitamin A, and counseling on nutrition, breastfeeding, and family planning. The DOH also recommends at least two (2) postnatal checks for newborns, the first at 48 to 72 hours of life and the second at seven (7) days of life. Subsequent visits follow the immunization schedule. The purpose of these postnatal checks is the early detection and management of infections, birth complications, or other life-threatening conditions. Newborn postnatal checks are also opportunities to give advice to the mother on proper care for the newborn, such as hygiene and breastfeeding. Among women age 15-49 who gave birth in the two (2) years preceding the survey, 86% had a postnatal check during the first two (2) days after their most recent birth. Similarly, 86% of newborns had a postnatal check during the first two (2) days after birth (PSA and ICF, 2018).

Historically, an important measure of vaccination coverage has been the proportion of children receiving all “basic” vaccinations. Children are considered to have received all basic vaccinations if they have received the BCG vaccine, three (3) doses each of the DPT and polio vaccines, and a single dose of measles-containing vaccine. In the Philippines, the BCG vaccine is usually given at birth or at the first clinic contact, while the DPT vaccine is given at the approximate ages of six (6), ten (10), and 14 weeks in combination with Hib and HepB (DPT-Hib-HepB), IPV (DPT-Hib-IPV), or both IPV and HepB (DPT-IPV-Hib-HepB). When IPV is not given in combination with DPT, polio vaccine is given as OPV on the same schedule as the DPT-containing vaccine. The

first measles-containing vaccine, either measles alone or MMR, should be given at or soon after age nine (9) months, and a second dose should be given at 12-15 months. Seventy percent of children age 12-23 months had received all basic vaccinations by the time of the survey. Nine percent of children did not receive any vaccines.

All variables used in the assessment of women empowerment, spousal violence, and health outcomes were based on the women's questionnaire of the 2011 NDHS.

B. DEVELOPMENT OF THE WOMEN EMPOWERMENT INDEX

In the development of the women empowerment index for this study, the following questionnaire items were used to derive the measurement or score:

1. Education (seduc)

Education can help to empower women by equipping them with the information and means to function effectively, especially in the modern world. The women's highest educational attainment was asked. For this study, women who had at least secondary education or higher are considered empowered.

2. Employment for cash (V741)

Employment, particularly for cash and in-kind, potentially empowers women by providing financial independence, alternative sources of social identity, and exposure to power structures independent of kin networks (Dixon-Mueller, 1993). All women in the DHS are asked if they are currently employed. This initial question is followed by a short sequence of questions that attempts to elicit information on both formal and informal employment. Women who are working or have worked in the 12 months preceding the survey are asked if they are paid in cash, in-kind, both in cash and in-kind, or not paid at all. Only those who receive payment in cash only or in cash and in-kind are considered to earn cash for their employment.

3. Control over one's own cash earnings (V739)

Respondents are considered to have control over their own earnings if they participate in decisions alone or jointly with their spouse about how their own earnings will be used.

4. Control over men's earnings (V743f)

Respondents are considered to have control over their husband's/partner's earnings if they participate in decisions alone or jointly with their spouse about how their spouse earnings will be used.

5. Ownership of a house or land (V745a and V745b)

Respondents who own a house or land, whether alone or jointly with someone else.

6. Has and uses a bank account (V170)

Respondents who have an account in a bank or other financial institution that they themselves use.

7. Mobile phone ownership (V169a)

Respondents who own a mobile phone.

8. Women's participation in household decision-making (V743a, V743b, and V743d)

Women's role in and degree of control over the process of decision-making in households are important aspects of women's empowerment and gender relations that have cross-cultural and household-level relevance. The choice of specific decisions to ask women about in the DHS questionnaires was guided by the need to ensure that the decision areas included were relevant to all women, whether they were currently married or not and had children or not, and that they covered different aspects of household and

individual functioning. Accordingly, the question asked of all women is:

- *Who usually makes decisions about:*
- *Healthcare for yourself?*
- *Making major household purchases?*
- *Visits to your family or relatives?*

Responses are coded as: “Respondent”; “Husband/partner”; “Respondent and husband/partner jointly”, “Someone else”; “Other”.

The question of decisions about major household purchases was designed to tap into economic decision-making in the household while allowing for variations in participation according to the relative amount of money to be expended. Participation in decisions about visits to family or friends was expected to be most culture-specific; this type of decision-making is less likely to involve women in cultures in which women’s freedom of movement is restricted and their interaction with birth-family members is closely monitored by husbands and in-laws than in other cultures. Finally, decisions about their own health care were thought to be most fundamental to women’s self-interest and of direct relevance to bringing about population-, health-, and nutrition-related change.

9. Attitudes toward wife-beating (V744a-V744e)

Of particular relevance to demographic and health programs is the need to determine the extent to which women, the main targets of such programs, are empowered enough to have control over their own behavior, body, and sexuality. Accordingly, the following two sets of questions that explore women’s acceptance of norms that subordinate women’s bodily integrity and sexuality to men were included in the DHS:

In your opinion, is a husband justified in hitting or beating his wife in the following situations:

- *If she goes out without telling him?*
- *If she neglects the children?*
- *If she argues with him?*
- *If she refuses to have sex with him?*
- *If she burns the food?*

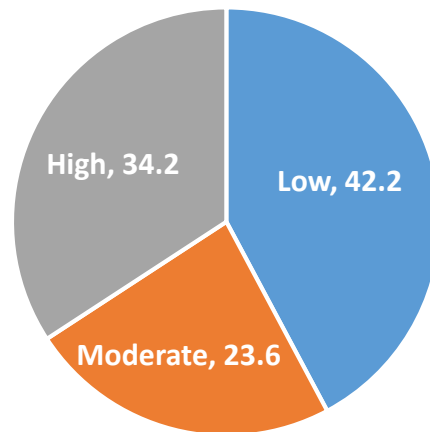
These sets of questions are attitude questions and not questions about women’s own experience. Agreement with specific justifications for a husband beating his wife or for a wife not being able to refuse her husband sex attests to the socialization of women in traditional gender-role norms that give husbands rights over the behavior and body of their wives. The presumption behind these questions is that truly empowered women would not accept such obvious gender-inequalities in power; empowered women would not agree with any justification for a husband beating his wife and would believe that a wife should have the right to decide when to have sex with her husband.

For each of the 16 indicators above, a binary system was developed, with code “0” for the null value, and a code “1” for the empowerment score. Instead of assigning equal weights to each of the indicators, xtile command from STATA software was employed. Xtile creates a categorical variable that contains categories of nearly the same number of observations corresponding to quantiles. For this study, tertiles or quantile of 3 is used. The analysis yields a factor score for each woman. The resulting score was ordered and used to divide women into three women empowerment index (WEI): 1 “Low”, 2 “Medium”, 3 “High”, representing their relative empowerment level with respect to other women in the study.

Based on the above scoring methodology, Figure 1 presents the frequency distribution of 12,520 women by their level of empowerment. Forty-two percent of women were considered to have a

low level of empowerment; 24 percent to have a moderate level, and 34 percent to have a high level of empowerment.

Figure 1. Percentage distribution of sample women by their levels of empowerment, Philippines 2017



C. STATISTICAL METHODS

We utilize percentages, percent distributions, and cross-tabulations for the descriptive analysis, and exploratory regression analyses to show relationships between the indicators and the covariates of empowerment. Logistic regression is used in many fields such as business and finance, engineering, marketing, economics, and medicine. Logistic regression deals with relationships among variables, with one variable being the dependent (outcome or response) variable and the others the independent (predictor or explanatory) variables. The independent variables can be continuous or categorical in nature. Logistic regression revolves around a core concept called the odds ratio. The goal of logistic regression is to predict the category of outcome for individual cases using the most parsimonious model. It uses the prediction of group membership and measures the associations and strengths among the variables.

D. STATISTICAL ANALYSIS

For the multivariate analysis, a binary logistic regression model is used when the dependent variable is dichotomous, such as women's participation in decision-making. Using STATA, data analysis was carried out in multiple phases. We include the following set of covariates in each regression: age, urban-rural residence, region, wealth quintile, and the number of living children.

E. LIMITATIONS OF THE STUDY

Aside from that the only data source used is the 2017 NDHS, the study is based on a cross-sectional survey conducted at only one point in time. Data from the 2013 NDHS is available and can be used for trend analysis for future study. An additional limitation is that this study is confined to women currently in union at the time of the survey but excludes the spousal violence experience of ever-married women not currently in union. Thus the results cannot be generalized to ever-married women. Furthermore, the analysis does not include emotional violence perpetrated by husbands/partners but instead focuses only on physical and sexual violence.

III. RESULTS

1. Characteristics of the Sample Women

A total of 12,520 currently married women age 15-49 selected for the domestic violence module were used for the study. Table 2 shows that more than half of the women are under age 35 (52%), resides in rural areas (56%) and lives in regions located in Luzon (53%). There is about equal distribution of women in terms of wealth quintile. Half of the women sampled had 1-2 living children (50%).

2. Empowerment-related characteristics

Two-thirds of women sampled had completed at least grade 10 level of education (67%) (Table 3). Only nine percent own a house or lot; 87 percent earns cash or in-kind; 23 percent have their own bank account; 84 percent own a mobile phone. Forty-three percent of the women sample has control over their own cash earnings. With regards to their participation in household decision-making (if they make decisions alone or jointly with their husband in all three (3) of the following areas: (1) their own health care, (2) major household purchases, and (3) visits to their family or relatives), 85 percent are involved with all household decisions. Only two percent were not involved in any household decisions. In terms of their attitudes to five (5) circumstances that lead to women justifying beatings by their husband, only 11 percent says beatings were justified with at least one specified reason.

3. Women empowerment by socio-demographic characteristics

Women below age 30 are in the low level of empowerment compared with women age 35 and older (Table 4). There is about equal distribution of women in the moderate level of empowerment in all age groups. There is a slightly small difference in the proportion of women at all levels when pertaining to the urban-rural residence. Among regions, women in the Autonomous Region in Muslim Mindanao are more likely to be in the low empowerment level (67%), than at the moderate or high level (33%). Women in Region II – Cagayan Valley have the highest empowerment level (56%), followed by women in Cordillera Administrative Region and National Capital Region (43%) and CALABARZON (41%).

As expected, women belonging to households in the lowest wealth quintile are more likely to be in the low level of empowerment (60%). Women in the highest wealth quintile have higher empowerment level (69%). Women who have more than six (6) children are less likely empowered compared to women with less than three (3) children.

Overall, thirty-three percent of women sampled had at least secondary education or higher; only nine percent of women age 15-19 had secondary education or more (Table 5). Women in urban areas (38%), in National Capital Region and Cordillera Administrative Region (48%), belonging to households in the highest wealth quintile (77%) and had no children (48%) are more likely to have completed at least secondary education or higher. Table 5 also shows that there is an increase in the number of women that finished secondary education or more as wealth index increases. Also, as the number of living children increases, the number of women who reached secondary education or more decreases.

There is a high percentage of women who own earnings, whether in cash or in-kind, at eighty-seven percent of the sample women. It was observed that as the age of the woman increases, the proportion of them having their own earnings slightly increases. For urban women, 91 percent of them earn cash or in-kind; while only 85 percent of rural women. Women in Region VI – Western Visayas have the lowest proportion of women earning their own cash/in-kind (72%), compared to women in the National Capital Region (98%). As with the education of women, the same results were observed with the proportion of women earning their own cash in terms of wealth index and number of children. As wealth index increases, women who have cash earnings increases, while as the number of living children increases, the possession of cash earnings decreases.

Table 5 shows that only nine percent of women sample own a house or lot whether alone or jointly with their husband/partner, and 23 percent has their own bank account. The disparity in house/land ownership was observed across all background variables of women. A greater proportion of older women, women living in Region II – Cagayan Valley and women in urban areas owned land/house. As expected, asset ownership increased as women's wealth status increased. Women with 3-4 children were most likely to own land/house. Women age 30 and over, reside in urban areas, located in the National Capital Region are more likely to have a bank account. Women in higher wealth index are more likely to own a bank account, while women with more children are less likely to have a bank account. Having a mobile phone allows women to have mobility and access to information. Four in five sampled women own a mobile phone (84%).

4. Participation in household decision-making and justification of wife beatings

Table 6 shows that about two in five sampled women participates on how to spend their own earnings, whether alone or jointly with their husband/partner (43%). About half of the women are age 35 or older. Those who reside in urban areas and Region VII – Eastern Visayas, are more likely to participate in spending their own earnings.

Eighty-five percent of women participate in all three (3) household decisions, whether alone or jointly with their husband/partner (decisions on own health care, household purchases and visits to her family or relatives. There is no disparity observed in women's participation in household decision-making by age, residence, wealth index and the number of living children. For women who justified wife beatings because she burns the food, argues with him, goes out without telling her husband/partner, neglects the children or refuses to have sexual intercourse with husband/partner, only 11 percent justified her husband/partner beating her. Women belonging to the youngest age group, living in rural areas, belonging to households in the second and lowest wealth index and having more than six (6) children, are more likely to justify their husband's/partner's beatings. Women in Autonomous Region in Muslim Mindanao also are more likely to justify the beatings.

A. SPOUSAL VIOLENCE AND WOMEN EMPOWERMENT

Based on the result of the 2017 NDHS, 12 percent of currently married women age 15-49 have experienced any form of physical or sexual violence by their current or most recent husband/partner, while five percent experienced spousal violence in the 12 months preceding the survey. For this study, the lifetime experience of physical and sexual violence among currently married women by their husband/partner shows that 14 percent of the currently married women studied had physical or sexual violence perpetrated by their spouses during their lifetime. Among these women, 12 percent experienced physical violence only, 5 percent experienced sexual violence only, and 3 percent experienced both physical and sexual abuse in their lifetime (Figure 2).

Figure 2. Type of spousal violence experienced by sampled women in their lifetime, Philippines 2017

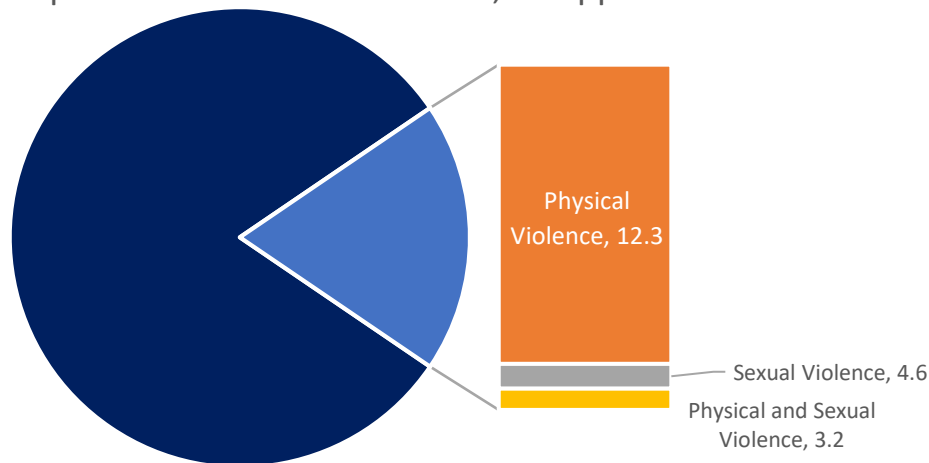


Table 7 shows that lifetime experience of any one of the two (2) forms of spousal violence studied was lowest (10%) for women at the high empowerment level compared with women at the moderate or low empowerment levels. These findings indicate a possible association between women empowerment and the experience of spousal violence. The chi-square test carried out to examine the association between women empowerment and women's experience of spousal violence confirmed the association.

The experience of spousal violence – whether physical, sexual, both physical and sexual, and either physical or sexual violence - does not differ between women's age and type of residence. Ever experience of spousal violence was greater to women in Caraga (27%), Region V – Bicol (26%) and Region VIII – Eastern Visayas (24%). Women who ever experienced physical or sexual violence were less observed in Autonomous Region in Muslim Mindanao (3%), National Capital Region and Cordillera Administrative Region (8%), and Region III – Central Luzon (9%) (Table 8).

In terms of wealth index, as the household wealth increases, the less likely the woman in that household will experience physical or sexual violence. The opposite is observed in the number of living children: as the number of living children increase, the more likely the woman will experience spousal abuse.

A multivariate logistic regression model was carried out to examine the relationship between women empowerment level and the women's experience of physical and sexual violence. Table 9 shows that when we compute the unadjusted regression model, the odds of having experienced physical or sexual violence is lower for women in the moderate and high levels of empowerment. But if we take into account the effects of socio-demographic characteristics such as the age of the women, her type of residence, her household wealth status and the number of living children she has, the women empowerment index remains significant. Aside from age of the woman, each of the other factors in the model, type of residence, wealth index and the number of living children, were significantly associated with women's experience of physical and sexual abuse.

B. WOMEN EMPOWERMENT, SPOUSAL VIOLENCE, AND HEALTH OUTCOMES

This study also looks into the relationship of women empowerment, spousal violence and its relationship to the mother and child health outcomes: had four or more antenatal visits, assistance of a skilled birth attendant during delivery, children 12-23 months who had all basic vaccinations, and children below age five whose mother sought advice or treatment for fever. Out of the 12,520 women in this study, there are only 6,263 women who had a live birth in the last five years, while there are 1,586 children age 12 to 23 months and 1,213 children under age 5 who had a fever two weeks prior to the 2017 NDHS data collection. The study presents

descriptive, as well as multivariate regression models results.

1. Antenatal care visits and skilled birth delivery by socio-demographic characteristics

Table 10 shows 87 percent of women in the study had 4 or more antenatal care (ANC) visits. The proportion of women who had 4 or more ANC does not vary among age groups and type of residence. Nine out of 17 regions had more than 90 percent of the women who had 4 or more ANC visits. For the wealth index, it was observed that as the household wealth increases, the proportion of women having 4 or more ANC visits increases, from 77 percent in the lowest wealth quintile, to 96 percent in the highest wealth quintile. Women who have no living children, or have more than 6 children, tend to have lower chances of having 4 or more ANC visits.

For those women who had given birth in the last 5 years, 87 percent said that they were assisted by a skilled birth attendant (SBA) during their delivery. Doctors, nurses, and midwives are considered skilled birth attendants in this study. Women residing in urban areas are more likely to be attended by an SBA during delivery (93%). Only two in five women in the Autonomous Region in Muslim Mindanao (39%), had deliveries attended by an SBA. There is an inverse relationship between wealth index and number of living children in terms of SBA-assisted delivery: as the wealth of the household increases, the more likely it will be attended by an SBA, while as the number of living children increases, the less likely it was assisted by an SBA.

2. Basic vaccination and advice or treatment sought for fever by socio-demographic characteristics

Children age 12-23 months who received all basic vaccination and children under age five who had a fever in the last 2 weeks prior to the 2017 NDHS survey, were taken into account in Table 11. Seventy percent of children age 12-23 months had received all basic vaccinations in this study. All basic vaccinations mean that the child received a dose of BCG, three doses each of DPT and polio, and a dose of measles or MMR vaccines. The percentage of children age 12-23 months who received all basic vaccinations is lowest among mothers whose age is 45-49 (58%) than among age 30-34 (75%). Children whose mothers reside in urban areas are more likely to have all basic vaccination (76% versus 65%). There are wide disparities by region in the percentage of children age 12-23 months who received all basic vaccinations. Coverage is lowest in the Autonomous Region in Muslim Mindanao (18%) and highest in Region XI – Davao Region (87%). The percentage of children age 12-23 months who received all basic vaccinations increases with increasing household wealth, from 59 percent in the lowest quintile, peaking at 81 percent in the fourth quintile, then goes down to 75 percent in the highest quintile. As the number of living children increases, the children are less likely to be covered by all basic vaccinations.

Among children under age five, 1,213 were reported to have a fever in the 2 weeks before the 2017 NDHS survey in this study (Table 11). Fifty-two percent of children with fever were taken for advice or treatment. Among children with fever for whom advice or treatment were sought, mothers are more likely aged 35-39 (58%), living in the National Capital Region (87%), women in wealthier households (fourth quintile, 61 percent, highest quintile, 60 percent), and those who has 1-2 living children (53%).

3. Maternal and child health services by women empowerment index and experience of spousal violence

There is an equal percentage that women with a live birth in the last five years will have at least four antenatal care visits (87%) and assisted by a skilled birth attendant during delivery (87%). The likelihood of using maternal services varied by women's experience of spousal violence and by their level of empowerment. As Table 12 shows, as the level of empowerment increases, the more likely the women will have four or more antenatal care visits, from 82 percent in the lowest index to 88 percent in the moderate index, to a high of 94 percent in the high empowerment index. The same is true for SBA delivery: 82 percent for low, 88 percent for the moderate, and 94 percent for the high empowerment index. These results show a positive association between women empowerment and maternal health services, with the p-value showing a 99.99 percent

relevance.

Table 12 also shows that there is not much difference between women who had experienced physical or sexual abuse versus those who had not experienced in terms of those who had 4 or more ANC visits and SBA-assisted delivery. The relationship between spousal violence and these two maternal health service are not statistically significant.

For the child health service utilization, there is no significance in the difference between the women empowerment index levels and those children age 12-23 months who had been covered by all basic vaccines. There is also no significant relationship between the mother's experience of spousal violence and the child's coverage of vaccines. But in terms of the relationship between the women empowerment level and those children that were sought for advice or treatment for fever, there is a high significance between levels. As the level of empowerment index increases, the percentage of whom advice or treatment was sought for fever increases. For spousal violence, the difference between those who had experienced against those who had not experienced, are not significant.

4. Multivariate logistic regression

Multivariate logistic regression models were carried out for only two of the four health outcomes studied: for or more ANC visits by women and sought advice or treatment for fever among children. This is because the assessment of a single maternal health outcome and a single child health outcome was sufficient to measure the relationships between possible influencing factors and the outcome variables.

Table 13 and 14 shows the output regression that examines the relationship between women empowerment index, spousal violence, and utilization of four or more ANC visits for women or sought advice or treatment for fever among children, respectively. The outcome variable (4+ ANC visits or sought advice or treatment for fever) was binary; therefore, binary logistic regression was used. Initially, unadjusted odds were obtained through bivariate logistic regressions of WEI and spousal violence with the outcome variable. In the adjusted models, in the first model, WEI was excluded to see the effect of spousal violence on women's odds of having four or more ANC visits, while adjusting for the effects of age, caste/ethnicity, wealth quintile, and ecological zone. In the next model, spousal violence was excluded to see the effect of WEI on women's odds of having four or more ANC visits, while adjusting for the effects of age, caste/ethnicity, wealth quintile, and ecological zone. In the final regression model, all the variables were included to see the combined effect.

Women empowerment was significantly associated with making four or more ANC visits. In the unadjusted model, the odds of making four or more ANC visits for women at the moderate is 55 percent and 16 percent higher at those in the high empowerment level, than the odds for women at the low empowerment level. When spousal violence was not included and the remaining variables were included in the regression model, WEI retained its significant association with four or more ANC visits. In this model, the odds of making four or more ANC visits for women with moderate and high levels of empowerment was 35 percent and 100 percent, respectively, higher than the odds for women at the low empowerment level.

There was no significant association between spousal violence and the utilization of four or more ANC visits in all regression models. Among cofounders, only the urban/rural residency has no significant association with either women empowerment index and spousal violence.

Table 14 shows the association of women empowerment index, physical or sexual violence and seeking advice or treatment for children with fever. It was observed that only the women empowerment index has a significant association with seeking advice or treatment for children with fever. For the unadjusted model, women in the moderate level are less likely to seek advice or treatment than those in the high empowerment level (61% versus 31%). The association between women empowerment index and seeking advice or treatment for fever remained significant when all other factors except spousal violence were included in all regression models. Women at the moderate and high empowerment levels had 1.5 times and 1.7 times, respectively, greater adjusted odds of seeking treatment than women at the low empowerment level.

IV. DISCUSSION AND CONCLUSIONS

The Philippines has made improvements in elevating awareness of gender equality and promoting the empowerment of women. Since 2008, the NDHS had examined at the national level gender-based violence experienced by women. This section summarizes the major findings of the study and the association of women's empowerment and spousal violence with selected health outcomes.

1. On Women Empowerment

In developing a composite Women Empowerment Index (WEI), nine variables were used for the study: (1) education, (2) employment for cash, (3) control over one's own cash earnings, (4) control over men's earnings, (5) ownership of house or lot, (6) has and uses a bank account, (7) mobile phone ownership, (8) household decision-making, and (9) attitude towards wife-beating. Using these variables resulted in a different distribution of empowerment levels compared to that in the 2017 NDHS.

The analysis revealed that four out of five women are empowered at a low level, one in every four is moderately empowered, and a third are highly empowered. Filipino women who are highly empowered belong to women age 35-39, residing in urban areas, living in Region II – Cagayan Valley, are at the highest wealth index and are women who have no living children. On the other hand, women who are under age 20, living in Autonomous Region in Muslim Mindanao, belonging to households in the lowest wealth quintile and who have more than 6 living children, have the lowest levels of empowerment.

Women under age 20 belonging to the low level of empowerment are likely due to their dependence on their husband/partner, with less engagement in earning cash due to lower access to education, and less participation in decision-making. The fact that women with no children are more likely to be highly empowered than women with 6 or more children suggests that they may be better educated, have better employment, and involved in all household decisions. The traditional culture of Islam and the paternalistic society in the Autonomous Region in Muslim Mindanao could possibly a restriction to women's empowerment. In terms of education, again we would see that women whose age are below 20, residing in rural areas, located in the Autonomous Region in Muslim Mindanao, women whose household belong to the lowest wealth index, and women having 6 or more children, are more likely in the less empowered level. The proportion of women earning cash is decreasing as women get older and the number of children increases, probably reflecting the economic viability of women in our society that are imposed on women. Ownership of house or land is low among all characteristics, but lowest among the younger women and women with 6 or more children.

2. On Women Empowerment and Spousal Violence

This study shows that women's lifetime experience of physical and/or sexual spousal violence is 14 percent among currently married women; 12 percent experienced physical violence, 5 percent sexual violence, and 3 percent experienced both forms of spousal violence.

The study revealed that the greater the number of living children, the lower the empowerment level and the higher the prevalence of spousal violence. We take note also that women belonging to households in the lowest quintile are also have a higher prevalence of spousal abuse. In designing and implementing programs, we can further investigate the relationship between spousal violence and the economic situation of the household, including the woman's husband/partner and his educational level.

Looking at the bivariate analysis, the result shows that as the empowerment level increases, the experience of spousal violence decreases. The effects of age, residence, household wealth and the number of living children are controlled in the multivariate regression model, women empowerment is significantly associated with the experience of spousal violence. Therefore, programs aiming to empower women and reduce spousal violence need to design interventions that targets women in rural areas, socioeconomic status and fertility behavior.

3. On Women Empowerment and Spousal Violence in Relation to Health Outcomes

The use of maternal health services in the Philippines is increasing. Women who had four or more visits increased from 79 percent in 2008 to 87 percent in 2017. Similarly, the percentage of women who received skilled birth attendant (SBA)-assisted deliveries also increased from 62 percent to 84 percent over the same period. Eighty-seven percent of women in this study each had four or more antenatal care visits and assisted by a SBA during their delivery, which is almost the same as the 2017 NDHS results.

Based on the results of the study, the woman's empowerment level has a direct relationship to 4+ ANC visits even after adjusting for other factors. This is similar to the results of the same study in Nepal and Ethiopia where health-seeking behavior was more frequent by empowered women (Tuladhar, et.al. 2013, Woldemicael and Tenkorang, 2010). Age, wealth index and the number of living children were found out to be relevant for ANC. There is little evidence to show that there are differences in obtaining maternal health services in rural-urban residences.

In looking at the relationship of women empowerment, spousal violence and child immunization, it was observed that the more empowered the mothers are, the more likely their children will be immunized, whether using unadjusted or adjusted factors. There is no significant effect observed of spousal violence and child immunization in all models.

This study succeeded in examining the relationship of women empowerment and spousal violence to selected health outcomes and service utilization. Positive health outcomes are associated with high levels of empowerment and the absence of spousal violence. Women empowerment is interrelated to maternal and child health outcomes. The age, household wealth and number of living children, as well as education, all had an effect on the empowerment level and spousal violence. Despite the limitations, the study had successfully showed that both women empowerment and spousal violence have implications on mother and child health services. Hence, policies and programs that promote women empowerment and interventions on reduction of spousal violence incorporated to education, economy and health will have a substantial effect to Filipino women and children.

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Table 1. Women Empowerment Index

Percentage distribution of sampled women by their levels of empowerment:
Philippines 2017

Levels of empowerment	Number of women	Percent
Low	5,282	42.2
Moderate	2,955	23.6
High	4,283	34.2
Total	12,520	100.0

Table 2. Socio-Demographic Characteristics

Percent distribution of currently married women age 15-49 by selected background characteristics: Philippines 2017

Background characteristics	Percentage of women	Number of women
Age group		
15-19	2.4	300
20-24	10.9	1,364
25-29	19.1	2,390
30-34	20.0	2,503
35-39	19.5	2,440
40-44	14.9	1,862
45-49	13.3	1,661
Residence		
Urban	44.1	5,522
Rural	55.9	6,998
Region		
National Capital Region	13.7	1,716
Cordillera Administrative Region	1.4	180
Region I - Ilocos Region	4.5	569
Region II - Cagayan Valley	3.7	465
Region III - Central Luzon	10.1	1,259
CALABARZON	17.2	2,147
MIMAROPA	2.8	350
Region V - Bicol	6.1	764
Region VI - Western Visayas	6.1	766
Region VII - Central Visayas	5.9	741
Region VIII - Eastern Visayas	4.1	514
Region IX - Zamboanga Peninsula	3.5	436
Region X - Northern Mindanao	4.3	542
Region XI - Davao Region	5.8	723
Region XII - SOCCSKSARGEN	4.9	614
Caraga	2.9	360
Autonomous Region in Muslim Mindanao	3.0	373
Wealth index		
Lowest	21.5	2,694
Second	20.9	2,611
Middle	20.3	2,535
Fourth	20.1	2,515
Highest	17.3	2,164
Number of living children		
0	8.1	1,011
1-2	49.6	6,207
3-4	30.2	3,787
5-6	8.6	1,071
More than 6	3.5	444
Total	100.0	12,520

Table 3. Empowerment-Related Characteristics

Percent distribution of currently married women age 15-49 by selected background characteristics: Philippines 2017

Background characteristics	Percentage of women	Number of women
<i>Highest educational attainment</i>		
No education/preschool	1.0	119
Grades 1-6	17.5	2,192
Grades 7-10	49.0	6,129
Grade 11	0.1	13
Post-secondary	4.7	594
College or higher	27.7	3,472
<i>Ownership of house or lot</i>		
Yes	9.1	1,140
No	90.9	11,380
<i>Has own cash earnings</i>		
Yes	87.4	10,939
No	12.6	1,581
<i>Has own bank account</i>		
Yes	23.2	2,902
No	76.8	9,618
<i>Control over own cash earnings</i>		
Yes	42.6	5,336
No	57.4	7,184
<i>Own a mobile phone</i>		
Yes	83.9	10,501
No	16.1	2,019
<i>Involvement in household decision making</i>		
3 decisions	85.0	10,640
1-2 decisions	12.7	1,593
None	2.3	287
<i>Justifies husband's beatings with at least one specified reason</i>		
Yes	11.2	1,407
No	88.8	11,113
Total	100.0	12,520

Table 4. Women Empowerment Index by Selected Socio-Demographic Characteristics

Percent distribution of currently married women age 15-49 by their level of empowerment, according to selected background characteristics: Philippines 2017

Background characteristics	Level of empowerment				Number of women
	Low	Moderate	High	Total	
Age group					
15-19	75.2	20.9	3.9	100.0	300
20-24	56.0	22.7	21.3	100.0	1,364
25-29	46.8	24.0	29.2	100.0	2,390
30-34	39.4	23.5	37.1	100.0	2,503
35-39	35.8	23.1	41.1	100.0	2,440
40-44	35.6	25.7	38.8	100.0	1,862
45-49	39.2	22.9	37.9	100.0	1,661
Residence					
Urban	41.1	22.8	36.1	100.0	5,522
Rural	43.1	24.2	32.7	100.0	6,998
Region					
National Capital Region	33.8	23.1	43.1	100.0	1,716
Cordillera Administrative Region	39.3	17.9	42.7	100.0	180
Region I - Ilocos Region	39.4	25.9	34.7	100.0	569
Region II - Cagayan Valley	21.1	23.0	55.9	100.0	465
Region III - Central Luzon	42.5	26.2	31.3	100.0	1,259
CALABARZON	35.1	24.2	40.7	100.0	2,147
MIMAROPA	38.6	27.0	34.4	100.0	350
Region V - Bicol	43.8	24.4	31.8	100.0	764
Region VI - Western Visayas	51.9	23.9	24.2	100.0	766
Region VII - Central Visayas	46.1	20.9	32.9	100.0	741
Region VIII - Eastern Visayas	37.1	27.7	35.3	100.0	514
Region IX - Zamboanga Peninsula	65.6	17.4	17.0	100.0	436
Region X - Northern Mindanao	47.3	26.6	26.1	100.0	542
Region XI - Davao Region	46.4	20.9	32.7	100.0	723
Region XII - SOCSSKSARGEN	52.8	22.2	25.1	100.0	614
Caraga	47.0	23.7	29.4	100.0	360
Autonomous Region in Muslim Mindanao	66.7	18.6	14.6	100.0	373
Wealth index					
Lowest	60.3	23.8	15.9	100.0	2,694
Second	49.6	24.9	25.6	100.0	2,611
Middle	45.3	27.5	27.2	100.0	2,535
Fourth	34.0	26.3	39.7	100.0	2,515
Highest	16.5	14.3	69.2	100.0	2,164
Number of living children					
0	34.3	20.5	45.3	100.0	1,011
1-2	40.1	23.0	36.9	100.0	6,207
3-4	42.5	26.0	31.5	100.0	3,787
5-6	53.1	21.9	25.0	100.0	1,071
More than 6	59.7	23.2	17.1	100.0	444
Total	42.2	23.6	34.2	100.0	12,520

Table 5. Types of Possession by Socio-Demographic Characteristics

Percent distribution of currently married women age 15-49 by type of possession, according to selected background characteristics: Philippines 2017

Background characteristics	Had at least secondary education or higher	Has own earnings in cash or in-kind	Owns house or lot	Has own bank account	Owns a mobile phone	Number of women
Age group						
15-19	9.3	96.3	1.6	1.5	79.6	300
20-24	22.8	92.0	6.1	11.8	84.0	1,364
25-29	28.8	90.2	7.2	18.5	87.7	2,390
30-34	35.8	88.9	7.8	25.1	88.3	2,503
35-39	41.3	85.6	9.4	30.9	84.9	2,440
40-44	33.6	83.3	12.5	26.2	79.2	1,862
45-49	31.6	82.8	13.4	25.5	76.3	1,661
Residence						
Urban	38.4	91.1	8.2	27.8	89.2	5,522
Rural	28.0	84.5	9.8	19.6	79.7	6,998
Region						
National Capital Region	47.7	97.7	6.7	38.5	95.6	1,716
Cordillera Administrative Region	47.7	75.5	8.6	35.6	85.3	180
Region I - Ilocos Region	33.6	89.5	7.1	23.4	87.7	569
Region II - Cagayan Valley	32.1	92.1	17.5	20.0	89.5	465
Region III - Central Luzon	29.9	91.3	16.8	21.0	86.0	1,259
CALABARZON	38.5	94.6	8.0	32.8	90.8	2,147
MIMAROPA	28.4	84.5	12.9	16.9	76.8	350
Region V - Bicol	24.3	82.4	3.6	20.4	80.2	764
Region VI - Western Visayas	28.7	72.1	11.9	16.2	76.4	766
Region VII - Central Visayas	27.5	83.9	6.7	16.1	84.5	741
Region VIII - Eastern Visayas	29.0	84.4	5.7	24.9	76.8	514
Region IX - Zamboanga Peninsula	24.0	78.5	11.7	12.0	70.8	436
Region X - Northern Mindanao	24.1	88.5	6.9	12.7	78.7	542
Region XI - Davao Region	31.2	87.3	10.4	16.7	82.8	723
Region XII - SOCCSKSARGEN	23.3	74.0	3.3	15.2	69.9	614
Caraga	27.0	75.5	10.0	13.6	78.2	360
Autonomous Region in Muslim Mindanao	19.2	79.8	11.1	3.3	60.9	373
Wealth index						
Lowest	6.4	83.3	8.9	5.6	61.2	2,694
Second	17.9	86.3	8.0	8.2	79.7	2,611
Middle	25.9	88.5	7.7	14.5	88.3	2,535
Fourth	45.0	89.1	9.2	29.2	95.6	2,515
Highest	76.5	90.5	12.2	66.4	98.4	2,164
Number of living children						
0	48.2	90.9	8.5	36.8	90.8	1,011
1-2	39.1	88.7	8.4	25.5	89.8	6,207
3-4	26.3	87.0	10.6	19.3	82.1	3,787
5-6	14.2	81.5	9.6	16.2	62.6	1,071
More than 6	4.1	79.3	6.8	10.5	51.7	444
Total	32.6	87.4	9.1	23.2	83.9	12,520

Table 6. Participation in Decision-Making and Justification of Husband's Wife Beating

Percent distribution of currently married women age 15-49 who participates in decision-making either alone or jointly with their husband/partner and justifies husband's beating, according to selected background characteristics: Philippines 2017

Background characteristics	Participates on how to spend own cash earnings	Participates in all household decisions¹	Justifies husband's beatings²	Number of women
Age group				
15-19	21.8	77.4	16.5	300
20-24	33.0	80.1	12.7	1,364
25-29	36.7	85.2	11.7	2,390
30-34	42.2	85.9	11.0	2,503
35-39	47.6	85.6	9.6	2,440
40-44	49.9	86.7	11.6	1,862
45-49	48.0	85.9	10.8	1,661
Residence				
Urban	47.1	85.0	9.4	5,522
Rural	39.1	85.0	12.7	6,998
Region				
National Capital Region	50.6	90.4	3.3	1,716
Cordillera Administrative Region	44.6	83.6	11.7	180
Region I - Ilocos Region	46.9	87.0	11.7	569
Region II - Cagayan Valley	50.5	93.4	7.2	465
Region III - Central Luzon	40.1	89.5	8.8	1,259
CALABARZON	47.6	89.9	11.0	2,147
MIMAROPA	42.1	91.0	10.5	350
Region V - Bicol	44.9	73.0	8.7	764
Region VI - Western Visayas	33.7	79.5	17.2	766
Region VII - Central Visayas	53.3	75.1	15.2	741
Region VIII - Eastern Visayas	41.9	83.0	7.4	514
Region IX - Zamboanga Peninsula	29.1	72.5	27.0	436
Region X - Northern Mindanao	37.2	76.5	9.0	542
Region XI - Davao Region	39.6	82.7	13.3	723
Region XII - SOCSSKSARGEN	30.4	87.3	15.1	614
Caraga	40.4	79.0	10.2	360
Autonomous Region in Muslim Mindanao	14.5	89.8	28.9	373
Wealth index				
Lowest	30.8	80.4	17.8	2,694
Second	39.1	84.3	12.8	2,611
Middle	43.4	82.9	9.1	2,535
Fourth	45.7	89.1	8.2	2,515
Highest	57.1	89.2	7.3	2,164
Number of living children				
0	59.7	84.2	7.4	1,011
1-2	41.9	85.0	9.8	6,207
3-4	40.2	86.1	13.2	3,787
5-6	39.9	82.6	13.8	1,071
More than 6	41.5	83.5	17.3	444
Total	42.6	85.0	11.2	12,520

Notes:

¹ Participates on woman's health care, making household purchases and visit her family or relatives

² Reasons for wife-beating is justified if she burns the food, argues with him, goes out without telling him, neglects the children or refuses to have sexual intercourse with him.

Table 7. Prevalence of Spousal Violence by Women Empowerment Index

Percentage distribution of currently married women age 15-49 who ever experienced spousal violence, according to their level of empowerment: Philippines 2017

Levels of empowerment	Physical violence	Sexual violence	Physical and sexual violence	Physical or sexual violence	Number of women
Low	15.7	5.5	3.9	17.3	4,598

Moderate	11.5	4.5	3.2	12.8	2,533
High	8.6	3.5	2.3	9.8	3,648

Total	12.3 **	4.6 **	3.2 **	13.7 **	10,778
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Note: ** p<0.01

Table 8. Spousal Violence by Background Characteristics

Percentage distribution of currently married women age 15-49 who ever experienced spousal violence, according to background characteristics: Philippines 2017

Background characteristics	Physical violence	Sexual violence	Physical and sexual violence	Physical or sexual violence	Number of women
Age group					
15-19	11.5	2.9	0.9	13.5	317
20-24	15.7	4.9	3.3	17.4	1,209
25-29	11.7	4.3	2.8	13.1	1,904
30-34	12.2	4.0	3.0	13.3	1,939
35-39	11.5	5.1	3.5	13.1	2,017
40-44	12.9	5.1	4.0	14.0	1,685
45-49	11.3	4.6	3.3	12.6	1,707
Residence					
Urban	12.3	3.9	2.8	13.3	4,836
Rural	12.4	5.2	3.6	14.0	5,942
Region					
National Capital Region	7.2	1.3	0.9	7.6	1,547
Cordillera Administrative Region	7.0	2.6	1.6	8.0	153
Region I - Ilocos Region	16.3	4.6	3.3	17.6	497
Region II - Cagayan Valley	13.4	5.3	4.3	14.4	405
Region III - Central Luzon	8.0	3.2	2.5	8.8	1,106
CALABARZON	11.2	3.3	2.6	11.8	1,797
MIMAROPA	13.2	4.6	3.1	14.8	295
Region V - Bicol	22.2	10.3	7.1	25.5	664
Region VI - Western Visayas	13.9	4.1	3.2	14.9	634
Region VII - Central Visayas	13.4	5.6	3.8	15.2	650
Region VIII - Eastern Visayas	21.9	7.9	5.8	24.0	449
Region IX - Zamboanga Peninsula	14.5	9.1	5.0	18.7	358
Region X - Northern Mindanao	11.3	3.7	3.1	11.8	468
Region XI - Davao Region	14.7	3.3	3.0	14.9	599
Region XII - SOCCSKSARGEN	10.0	6.7	3.1	13.7	521
Caraga	22.1	13.7	8.9	26.9	310
Autonomous Region in Muslim Mindanao	2.3	0.9	0.6	2.6	325
Wealth index					
Lowest	17.5	6.4	4.8	19.0	2,176
Second	14.6	6.2	4.3	16.5	2,186
Middle	12.3	5.8	4.2	13.9	2,194
Fourth	11.3	2.2	1.3	12.2	2,252
Highest	5.4	2.1	1.4	6.1	1,970
Number of living children					
0	7.6	2.3	1.1	8.9	917
1-2	10.9	3.8	2.7	12.1	5,108
3-4	13.6	5.0	3.5	15.1	3,251
5-6	17.1	7.5	5.7	19.0	1,047
6 or more	17.4	8.2	6.3	19.3	455
Total	12.3	4.6	3.2	13.7	10,778

Table 9. Association of Women Empowerment Index and Physical or Sexual Violence

Odds ratio and 95% confidence interval of the association of women empowerment index and spousal physical or sexual violence: Philippines 2017

Background characteristics	Unadjusted Odds Ratio	95% Confidence Interval		Adjusted Odds Ratio	95% Confidence Interval	
		Lower Limit	Upper Limit		Lower Limit	Upper Limit
Women Empowerment Index						
Low	1.000	-	-	1.000	-	-
Moderate	-0.358 **	-0.547	-0.168	0.763 **	0.629	0.927
High	-0.662 **	-0.851	-0.473	0.716 **	0.577	0.887
Age group						
15-19				1.000	-	-
20-24				1.325	0.724	2.423
25-29				0.933	0.538	1.617
30-34				0.941	0.533	1.661
35-39				0.909	0.514	1.606
40-44				0.931	0.526	1.649
45-49				0.823	0.465	1.459
Residence						
Urban				1.000	-	-
Rural				0.834 *	0.699	0.995
Wealth index						
Lowest				1.000	-	-
Second				0.887	0.730	1.079
Middle				0.749 *	0.590	0.949
Fourth				0.666 **	0.510	0.870
Highest				0.352 **	0.248	0.500
Number of living children						
0				1.000	-	-
1-2				1.393	0.878	2.210
3-4				1.861 **	1.206	2.871
5-6				2.273 **	1.439	3.591
More than 6				2.099 **	1.279	3.443

Note: * p<0.05, ** p<0.01

Table 10. Antenatal Visits and Skilled Birth Attendant by Background Characteristics

Percent distribution of currently married women age 15-49 who had a live birth in the last 5 years with 4 or more antenatal care visits and attended by a skilled birth attendant during delivery, according to selected background characteristics: Philippines 2017

Background characteristics	4 or more antenatal visits	Skilled birth attendants¹	Number of women
Age group			
15-19	79.3	84.6	205
20-24	83.1	86.2	1,123
25-29	88.8	87.1	1,719
30-34	89.1	89.8	1,502
35-39	87.2	84.0	1,090
40-44	83.0	84.1	518
45-49	84.8	81.4	106
Residence			
Urban	88.1	93.4	2,721
Rural	85.6	81.4	3,542
Region			
National Capital Region	93.6	96.8	751
Cordillera Administrative Region	86.2	92.5	92
Region I - Ilocos Region	90.6	97.9	263
Region II - Cagayan Valley	91.4	92.4	249
Region III - Central Luzon	81.4	94.6	592
CALABARZON	90.9	89.4	1,088
MIMAROPA	82.7	73.4	177
Region V - Bicol	80.6	86.9	415
Region VI - Western Visayas	86.4	83.0	408
Region VII - Central Visayas	91.0	93.3	327
Region VIII - Eastern Visayas	90.1	88.8	278
Region IX - Zamboanga Peninsula	89.3	81.2	250
Region X - Northern Mindanao	92.1	82.0	269
Region XI - Davao Region	94.4	84.3	344
Region XII - SOCCSKSARGEN	72.6	71.9	347
Caraga	90.3	81.9	202
Autonomous Region in Muslim Mindanao	47.4	39.3	210
Wealth index			
Lowest	76.9	68.6	1,709
Second	87.2	86.5	1,409
Middle	88.5	94.1	1,247
Fourth	92.5	97.2	1,087
Highest	96.0	99.1	810
Number of living children			
0	55.5	91.6	21
1-2	89.4	91.3	3,395
3-4	86.9	85.4	2,025
5-6	78.9	74.8	567
More than 6	69.3	60.0	254
Total	86.7	86.6	6,263

Notes:

¹ Skilled birth attendants are doctors, nurses and midwives

Table 11. Basic Vaccination and Advice or Treatment Sought for Fever by Background Characteristics

Percentage of children age 12-23 months who received all basic vaccination and percentage among children below age 5 who sought advice or treatment for fever, according to selected background characteristics: Philippines 2017

Background characteristics	Children age 12-23 months		Among children under age 5 with fever	
	All basic vaccinations	Number of children	Percentage whom advice or treatment was sought ¹	Number of children
Age group				
15-19	67.9	77	47.2	78
20-24	67.0	298	51.2	228
25-29	68.1	451	50.1	343
30-34	74.6	334	53.1	262
35-39	70.3	315	57.9	187
40-44	71.8	103	48.2	95
45-49	57.7	7	43.2	20
Residence				
Urban	75.9	696	51.3	512
Rural	65.2	890	52.0	701
Region				
National Capital Region	80.0	177	86.7	56
Cordillera Administrative Region	77.4	22	56.0	8
Region I - Ilocos Region	62.7	62	53.4	61
Region II - Cagayan Valley	68.4	63	60.4	35
Region III - Central Luzon	69.1	138	60.3	89
CALABARZON	74.1	283	51.7	188
MIMAROPA	61.2	43	52.3	54
Region V - Bicol	78.2	105	68.6	127
Region VI - Western Visayas	65.4	108	17.0	130
Region VII - Central Visayas	81.5	97	58.5	65
Region VIII - Eastern Visayas	83.0	76	50.8	105
Region IX - Zamboanga Peninsula	58.9	61	55.4	56
Region X - Northern Mindanao	73.9	68	34.7	42
Region XI - Davao Region	86.8	77	64.8	59
Region XII - SOCSSKSARGEN	45.4	93	46.8	56
Caraga	72.6	50	34.6	56
Autonomous Region in Muslim Mindanao	17.5	65	44.7	25
Wealth index				
Lowest	59.1	477	43.6	393
Second	71.8	345	51.7	299
Middle	72.1	311	54.7	231
Fourth	80.5	270	60.9	178
Highest	74.9	183	59.5	112
Number of living children				
1-2	71.6	809	52.9	651
3-4	70.6	551	51.4	398
5-6	65.6	155	47.4	102
More than 6	56.0	69	48.1	61
Total	69.9	1,586	51.7	1,213

Notes:

¹ Includes advice or treatment from the following sources: public sector, private medical sector, puericulture center, and shop/store. Excludes advice or treatment from a traditional practitioner/hilot or friends/relatives.

Table 12. Maternal and Child Health Services by Women Empowerment Index and Experience of Spousal Violence

Percentage of currently married women age 15-49 with a live birth in the last 5 years who had 4 or more antenatal visits and who received assistance by a skilled birth attendant, percentage of children age 12-23 months who received all basic vaccination and percentage among children below age 5 who sought advice or treatment for fever according to their women's empowerment index and experience of physical or sexual violence by their most recent husband/partner: Philippines 2017

Characteristics	Currently married women with a live birth in the last 5 years			Children age 12-23 months		Children below age 5 who had a fever within the two weeks prior to survey	
	4 or more ANC visits	Delivered by SBA	Number of women	All basic vaccination	Number of children	Percentage whom advice or treatment was sought for fever	Number of children
<i>Women Empowerment Index</i>	**	**				**	
Low	82.2	81.9	3,014	67.1	819	45.5	642
Moderate	87.9	88.0	1,532	72.4	363	55.2	296
High	93.6	93.6	1,717	73.4	404	62.5	276
<i>Physical or Sexual Violence</i>							
Yes	87.0	86.8	5,376	69.1	1,341	51.5	981
No	85.2	85.3	887	74.4	245	52.8	232
Total	86.7	86.6	6,263	69.9	1,586	51.7	1,213

Note: ** p<0.01

Table 13. Association of Women Empowerment Index and Physical or Sexual Violence to Antenatal Care Visits

Odds ratio and 95% confidence interval of the association of women empowerment index and spousal physical or sexual violence to antenatal care visits: Philippines 2017

Background characteristics	Unadjusted Odds Ratio	95% Confidence Interval Lower Limit Upper Limit		Adjusted without women's empowerment index			Adjusted without spousal violence			Full model		
				Odds Ratio	95% Confidence Interval		Odds Ratio	95% Confidence Interval		Odds Ratio	95% Confidence Interval	
					Lower Limit	Upper Limit		Lower Limit	Upper Limit		Lower Limit	Upper Limit
Women Empowerment Index												
Low	1.000	-	-				1.000	-	-	1.000	-	-
Moderate	0.454 **	0.219	0.689				1.351 *	1.065	1.715	1.360 *	1.072	1.725
High	1.158 **	0.835	1.482				2.032 **	1.505	2.743	2.054 **	1.520	2.775
Physical or sexual violence												
No	1.000	-	-	1.000	-	-				1.000	-	-
Yes	-0.149	-0.403	0.104	1.148	0.890	1.482				1.197	1.520	2.775
Age group												
15-19				1.000	-	-	1.000	-	-	1.000	-	-
20-24				1.261	0.801	1.984	1.173	0.746	1.845	1.169	0.741	1.846
25-29				2.251 **	1.418	3.575	1.987 **	1.246	3.170	1.993 **	1.246	3.189
30-34				2.304 **	1.382	3.840	1.960 *	1.171	3.282	1.962 *	1.169	3.294
35-39				2.271 **	1.344	3.838	1.902 *	1.121	3.228	1.905 *	1.120	3.243
40-44				1.961 *	1.073	3.584	1.622	0.885	2.976	1.62 *	0.882	2.976
45-49				2.654 *	1.216	5.793	2.226	0.997	4.968	2.203	0.995	4.879
Residence												
Urban				1.000	-	-	1.000	-	-	1.000	-	-
Rural				1.242	0.872	1.770	1.176	0.822	1.683	1.182	0.827	1.691
Wealth index												
Lowest				1.000	-	-	1.000	-	-	1.000	-	-
Second				1.985 **	1.450	2.718	1.924 **	1.404	2.637	1.940 **	1.415	2.659
Middle				2.104 **	1.453	3.045	1.982 **	1.366	2.877	1.998 **	1.376	2.900
Fourth				3.233 **	2.024	5.165	2.819 **	1.767	4.498	2.854 **	1.790	4.550
Highest				6.277 **	3.212	12.267	4.527 **	2.381	8.607	4.631 **	2.426	8.844
Number of living children												
0				1.000	-	-	1.000	-	-	1.000	-	-
1-2				8.325 **	2.575	26.913	8.862 **	2.729	28.781	9.069 **	2.745	29.955
3-4				5.808 **	1.788	18.872	6.393 *	1.950	20.964	6.510 **	1.952	21.705
5-6				3.402 *	1.031	11.222	3.880	1.171	12.860	3.931 *	1.167	13.243
More than 6				2.543	0.760	8.505	3.069	0.905	10.415	3.091	0.899	10.627

Note: * p<0.05, ** p<0.01

Table 14. Association of Women Empowerment Index and Physical or Sexual Violence to Children with All Basic Vaccination

Odds ratio and 95% confidence interval of the association of women empowerment index and spousal physical or sexual violence to children with all basic vaccination: Philippines 2017

Background characteristics	Unadjusted Odds Ratio	95% Confidence Interval		Adjusted without women's empowerment index			Adjusted without spousal violence			Full model		
		Lower Limit	Upper Limit	Odds Ratio	Lower Limit	Upper Limit	Odds Ratio	Lower Limit	Upper Limit	Odds Ratio	Lower Limit	Upper Limit
Women Empowerment Index												
Low	1.000	-	-				1.000	-	-	1.000	-	-
Moderate	0.391 *	0.056	0.727				1.479 *	1.051	2.083	1.493 *	1.060	2.103
High	0.691 **	0.242	1.140				1.719 *	1.072	2.757	1.742 *	1.086	2.795
Physical or sexual violence												
No	1.000	-	-	1.000	-	-				1.000	-	-
Yes	0.055	-0.295	0.404	1.165	0.802	1.694				1.214	0.834	1.766
Age group												
15-19				1.000	-	-	1.000	-	-	1.000	-	-
20-24				1.140	0.472	2.753	1.042	0.430	2.523	1.035	0.427	2.508
25-29				1.137	0.456	2.834	0.946	0.378	2.370	0.950	0.378	2.389
30-34				1.283	0.508	3.239	1.060	0.413	2.719	1.065	0.415	2.733
35-39				1.425	0.530	3.831	1.148	0.421	3.132	1.138	0.418	3.095
40-44				1.018	0.374	2.771	0.794	0.276	2.281	0.795	0.277	2.278
45-49				0.792	0.167	3.754	0.608	0.121	3.056	0.599	0.120	2.983
Residence												
Urban				1.000	-	-	1.000	-	-	1.000	-	-
Rural				1.205	0.768	1.891	1.169	0.750	1.823	1.171	0.753	1.820
Wealth index												
Lowest				1.000	-	-	1.000	-	-	1.000	-	-
Second				1.373	0.890	2.116	1.341	0.871	2.064	1.352	0.881	2.076
Middle				1.641	0.938	2.871	1.529	0.884	2.645	1.552	0.895	2.691
Fourth				2.071	1.069	4.013	1.784	0.920	3.459	1.801	0.930	3.488
Highest				1.987	0.994	3.971	1.575	0.801	3.097	1.635	0.818	3.270
Number of living children												
0				1.000	-	-	1.000	-	-	1.000	-	-
1-2				1.000	-	-	1.000	-	-	1.000	-	-
3-4				0.934	0.622	1.403	0.972	0.648	1.459	0.962	0.639	1.448
5-6				0.876	0.472	1.626	0.938	0.507	1.735	0.924	0.501	1.705
More than 6				1.003	0.398	2.523	1.170	0.460	2.978	1.120	0.438	2.863

Note: * p<0.05, ** p<0.01

