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ADOLESCENT WOMEN'S REPRODUCTIVE HEALTH CARE UTILISATION IN ZIMBABWE: A CONTEXTUAL INVESTIGATION.

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ABSTRACT

Background

Early childbearing brings with it heightened health risks for mothers and their infants. Studies have shown that early childbearing contributes significantly to maternal mortality. Adolescent are twice as likely to experience a maternal death as older women and the likelihood is higher in Sub-Saharan Africa (SSA) (Reynolds & Wright, 2004). Utilisation of reproductive health care services has been identified as an important step towards improving maternal health, as per the Sustainable Development Goal 3 & 5 (SDG 3 & 5). Despite the high maternal mortality rates in Zimbabwe, the use of reproductive health services by adolescent women is low. The proportion of adolescent women in sexual union currently using modern contraception is 35.4%, whereas 63.6% of adolescent women who had their last birth during the five years preceding the 2010 Zimbabwe Demographic Health Survey (ZDHS) used the health facility to delivery their child (ZIMSTAT & ICF International Inc., 2012). Postnatal care (PNC) services were used by 23.3% of adolescents during the two years preceding the survey. Understanding factors influencing adolescent women's use of reproductive health services would assist in developing appropriate reproductive health programmes aimed at improving utilisation of reproductive health services.

There has been a substantial attempt to study factors influencing adolescent reproductive health care utilisation in Sub-Saharan Africa (SSA), Very few of these studies explored the role of community-level characteristics on adolescent reproductive health care utilisation. The objectives of this thesis were (i) To examine the levels of reproductive health care utilisation by adolescents in Zimbabwe, (ii) To determine the association between micro-level variables and contraceptive use, utilisation of health facility for delivery and PNC services by adolescent women in Zimbabwe, (iii) To examine the independent effects of macro-level contextual variables on contraceptive use, utilisation of health facility for delivery and PNC services by adolescent women in Zimbabwe, (iv) To establish the moderating effects of the macro-level contextual variables on the association between micro level individual and household variables and contraceptive use, utilisation of health facility for delivery and PNC by adolescent women in Zimbabwe, and (v) To compare the overall contribution of macro-level contextual

variable effects to contraceptive use, utilisation of health facility for delivery and PNC by adolescent women with the contribution by micro-level effects.

This study posits that community characteristics are more critical predictors of adolescent reproductive health care utilisation in Zimbabwe, than other individual and household characteristics. This thesis used a modified Behavioural Model of Health Service Use (BMHSU) to explain the complex effects and interactions of individual and community-level variables on the use of reproductive health care services by adolescent women in Zimbabwe. The BMHSU was originally developed by Andersen and Newman in 1973 to explore the use of biomedical health services by focusing on the individual as the unit of analysis. Lately, another version of the BMHSU model, which is similar to that of Anderson (1995), was created to illustrate utilisation of maternal health services (Wild et al., 2010). In this a multi-layered explanatory model, the authors suggest that decision-making on use of health services should be seen in the broader social context and that it should be recognised as a multifaceted process intimately tangled with local belief systems and social relationships. It emphasises the importance of the contextual effects on decision-making and access to care. The importance of community-level factors in influencing women's decision to use health care services is also acknowledged.

The models by Anderson (1995) and of Wild and others (2010) were drawn with some modification to be compatible with adolescent reproductive health service utilisation situation in Zimbabwe. The models were modified to include community-level influence on reproductive health utilisation. It shows conceptual pathways between adolescent women's background and context (community-level) and their use of reproductive health services.

Methods

Data from the 2010/11 Zimbabwe Demographic Health Survey were used. The data provided both the micro-level (individual and household) variables, as well as macro-level (or contextual) variables. The dependent variables covered in this thesis included adolescent modern contraceptive use, utilisation of health facility for delivery, and use of PNC services. Macro-level variables examined in this study covered three main domains: quality of reproductive health care, barriers to health care access and socio-economic development. A total weighted sample of 452 adolescent women aged 15 to 19 years who

were in a sexual union was used to analyse data for adolescent modern contraceptive use. For utilisation of health facility for delivery and use of PNC, a weighted sample of 660 women who gave birth as adolescents during five years preceding the survey was analysed. To examine the independent effects of macro-level variables and to establish their moderating effects, multilevel modelling was employed using generalised linear mixed models (GLMM). The GLMM is an extension of the generalised linear models, such as logistic regression, in which the predictors contain random effects in addition to the usual fixed effects. The model reduces chances of misestimating the significance of variables that act at different levels of the hierarchy, when compared to use of the traditional regression methods. It has the capability to entangle the contextual effects from the compositional effects when estimating parameters for hierarchical data.

Results

Current contraceptive use among adolescent women in sexual union stands at 35.4% and differed significantly by provinces. Both micro-level characteristics and macro-level variables explained some variation on contraceptive use between provinces. The odds of contraceptive use increased with an increase in parity (Odds Ratio (OR), 12.4). Adolescent women with high media access were slightly more than twice as likely to be using modern contraceptives compared to those with no access to media (OR, 2.1). Only one macro-level variable had independent effects on contraceptive use - the odds of modern contraceptive use by adolescent women increased with an increase in the provincial barriers to health care access (OR, 2.211). The Intra-class Correlation Coefficient (ICC) was reduced to 9% indicating that the clustering of use of modern contraceptives was related to both individual and community level characteristics. There was a significant interaction between the provincial socio-economic development index and access to media by adolescent women on use of modern contraceptives. The positive impact of high media access on use of modern contraceptives was mitigated as the provincial socio-economic development index increased. Both the micro-level and macro-level variables explained some of the variation in adolescent contraceptive use across provinces, but did not explain the variation between provinces. However, individual-level variables were more important in predicting current contraceptive use by adolescent women than provincial-level variables.

Out of the 660 women who had their last birth as adolescents during the five years preceding the survey, 63.7% used the health facility for delivery. There was significant variation across provinces and it was attributed to both the micro-level and macro-level variables. Individual characteristics associated with place of delivery included age at birth, birth order, education, religion, media access, household wealth status and level of autonomy. Macro-level or contextual variables that had independent effects on the use of health facility for delivery included the provincial socio-economic development index (OR, 2.323) and provincial barriers to health care access (OR, 2.406). The ICC was reduced to 5.2% indicating that the clustering of use of health facility for delivery was related to both individual and community level characteristics. There was a significant interaction between the provincial quality to reproductive health care and level of education on use of health facility for delivery. The positive impact of education on place of delivery for the last child by adolescent was mitigated as the provincial quality of reproductive health care increased. Macro-level variables were better predictors of the use of health facility for childbirth by adolescents than individual-level variables.

The proportion of women who used PNC within 48 hours after delivery of their last child as adolescents was 23.9%. The significant variation between provinces was attributable to both micro-level and macro-level variables. Micro-level variables associated with use of PNC by adolescent women included access to media and level of autonomy. There was only one macro-level variable which had an independent effect on the use of health facility for delivery by adolescent women. Macro-level variables that had independent effects on the use of PNC was the provincial socio-economic development index (OR, 2.505). The ICC was reduced to 9% indicating that the clustering of use of PNC was related to both individual and community level characteristics. Significant interaction on use of PNC was found between provincial barriers to health care access and high media access. The positive impact of high access to media on the use of PNC by adolescent women was mitigated by an increase in the provincial barriers to health care access. Macro-level variables explained more of the cluster variation than the micro-level variables.

Conclusion and Policy Implications

Both individual and community characteristics determined reproductive health care utilisation outcomes. The low ICCs indicate clustering of utilisation of reproductive

health care services was related to both the individual and community level characteristics. Community characteristics however were more critical predictors of adolescent use of health facility and PNC by adolescent women than individual characteristics. However, the same could not be said about the relationship between predictors of modern contraceptive use by adolescent women in Zimbabwe. Residing in provinces with a high socio-economic development index was more critical in influencing the use of health facility for delivery and use of PNC services within 48 hours after delivery of child by adolescent women. Provinces with a higher proportion of women with barriers to health care access critically influenced use of health facility for delivery. Individual characteristics such as parity and level of media access critically influenced used of modern contraceptives than community characteristics. Community characteristics acted as independent determinants, as well as moderators, on the association between individual characteristics and reproductive health care utilisation. There was a considerable contribution of community-level characteristics to reproductive health care utilisation.

Reproductive health programme interventions aimed at increasing adolescent reproductive health care utilisation should take into account both individual and community characteristics. Policy makers should design programmes that encourage low fertility, attainment of at least secondary education by women, use of health facility for delivery, women's participation in the labour force and a reduction of poverty levels which will ultimately improve provincial socio-economic development. Programmes should consider finding a solution to deal with some aspects that may hinder access to health care, such as accessibility to the health care facility, provision of transportation to health facilities, and cultural norms. More emphasis should also be made on the importance of delaying childbearing by creating an understanding of the health and socio-economic consequences of early childbearing. There is also a need for further research that examines other community characteristics' influences, such as socio-political and cultural factors. This is important as provincial-level socio-economic development may involve social and political decision- making and cultural factors are likely to influence adolescent women's decision to use reproductive health care services.

This thesis builds on findings of previous studies by moving beyond the understanding of individual and household-level determinants of utilisation of reproductive health care

by adolescent women. Community-level characteristics do play an important role in influencing reproductive health care service use by adolescent women. Compared to individual and household-level characteristics, the overall contribution of community-level characteristics effects on the utilisation of reproductive health care services by adolescent women differ by reproductive health care outcome. For example, the contribution of community-level effects outweighs the contribution of individual and household characteristics in influencing the use of the health facility for delivery and PNC within 48 hours after delivery. However, the contribution of individual and household-level characteristics effects on reproductive health care use by adolescent women outweigh the contribution of community-level characteristics in influencing the use of modern contraceptives.