Are Women Ready to do HIV Test?

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ABSTRACT

Objective: *To identify the factors that influence the stage of change with regards to HIV testing in women (16–45 years old) in Westmoreland using the trans-theoretical model (TTM) of behaviour change.*
Design and Methods: *A structured interview-assisted questionnaire was administered to 372 pregnant and non-pregnant respondents in urban and rural areas of Westmoreland after random selection of four public health facilities. The trans-theoretical model which suggests that behaviour change process moves through five stages from pre-contemplation to maintenance was used to evaluate readiness for HIV testing.*
Results: *Most pregnant women who tested previously were at the preparation stage (78.5%) while non-pregnant women who tested previously were at contemplation (68.5%). The significant predictors of being in the action or maintenance stage among pregnant women was being 20–24 years old, experiencing a first pregnancy and being exposed to counselling. For women who had never tested, preparation was significantly associated with being in an unstable union (non-pregnant). No significant association was found for non-pregnant, previously tested females or for pregnant women who had never tested.*
Conclusion: *The majority of women lacked self-efficacy as they were unable to maintain the behaviour and did not recognize its importance in the absence of pregnancy. Interventions are needed to target non-pregnant women, especially teenagers, women over 25-years old and women in unions. Integration of testing services into all aspects of primary healthcare, established testing protocols and simultaneous marketing to selected at-risk groups will increase the uptake of HIV testing opportunities and contribute to the control of this epidemic.*

¿Están las Mujeres Preparadas para una Prueba de VIH?

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RESUMEN

Objetivo: *Identificar los factores que influyen sobre la etapa de cambio en relación con la prueba de VIH en mujeres (16–45 años) en Westmoreland, mediante la utilización del modelo transteórico del cambio de comportamiento (MTT).*
Diseño y Métodos: *Se aplicó un cuestionario estructurado asistido por entrevistas, a 372 encuestadas – embarazadas y no embarazadas – en las áreas rurales y urbanas de Westmoreland, luego de una selección aleatoria de cuatro centros de salud pública. El MTT, que sugiere que el proceso de cambio de comportamiento atraviesa cinco etapas que van desde la precontemplación al mantenimiento, se usó para evaluar el grado de preparación para la prueba de VIH.*
Resultados: *La mayor parte de las mujeres embarazadas que tuvieron la prueba previamente estaban en la etapa de preparación (78.5%), mientras que las no embarazadas que tuvieron la prueba con anterioridad estaban en la etapa de contemplación (68.5%). Los predictores significativos de la etapa de acción o de mantenimiento entre las mujeres embarazadas, fueron: tener 20–24 años, estar experimentando el embarazo por primera vez, y estar expuestas a consejos psicológicos. Para las mujeres que nunca habían hecho la prueba, la preparación estuvo significativamente asociada con tener una unión inestable (no embarazadas). No se halló asociación significativa para las no embarazadas con pruebas anteriores o las embarazadas que nunca tuvieron pruebas.*

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Conclusión: *A la mayoría de las mujeres les faltaba autoeficacia, ya que no eran capaces de mantener el comportamiento y no reconocían su importancia en ausencia del embarazo. Se necesitan intervenciones a fin de poner las miras en las mujeres no embarazadas, especialmente las adolescentes, las mayores de 25 años, y las mujeres en uniones. La integración de los servicios de pruebas en todos los aspectos de la atención primaria de la salud, el establecimiento de protocolos de pruebas y el marketing simultáneo de grupos de riesgo seleccionados, aumentará el interés en las oportunidades de pruebas de VIH y contribuirá al control de esta epidemia.*

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INTRODUCTION

Human Immunodeficiency Virus/Acquired Immunedeficiency Syndrome (HIV/AIDS) continues to spread globally. In 2005, AIDS was the leading cause of death among adults 15–44 years in the Caribbean region (1). In Jamaica, between the period June–December 2006, there was an estimated 20 000 persons infected with HIV and women accounted for 38.6% of the total cases. There was an estimated 1.5–2% of antenatal patients infected with the HIV virus. Westmoreland has been ranked fifth in the parish rankings for HIV infection with a reported prevalence of 229.4 per 100 000 population (2). The high infection rates in Jamaica support the need for effective interventions to curtail the spread.

Screening for HIV is an intervention that serves as an entry point for preventative and therapeutic care. Voluntary Counselling and Testing (VCT) is the screening method utilised in primary care antenatal clinics in Jamaica since April 2003. Voluntary Counselling and Testing involves initial group education, pre-test counselling where information is given about the disease (HIV/AIDS), the testing procedure and allows engagement of individuals in personal risk assessment and risk reduction planning. When results become available, all patients are counselled on the meaning of the result, the risk reduction plan is reviewed and any necessary referrals are made (3).

The introduction of VCT has increased testing globally. The benefits of VCT include facilitation of risk reduction and encouragement of informed reproductive choices (4–6). The HIV-positive woman benefits through interventions to decrease mother-to-child transmission, secondary prevention to prevent re-infection and curtail the spread to others and allows access to treatment, care and support (4, 7, 8). Getting a HIV test is therefore a desired behaviour and understanding the change process is essential to allow increased uptake through effective strategies.

Theoretical Framework

Behaviour change theories examine how attitudes, beliefs and environmental factors impact on the adoption and maintenance of behaviour. The trans-theoretical model of behaviour change is one such theory recognizing that behaviour change is not an "all or none" phenomenon but that individuals change by progressing through a series of stages (9). Its use in assessing HIV testing is limited and a meta-analysis in 1999 suggested that more theory-driven research in the context of HIV testing was necessary to facilitate the behaviour change process (10).

The model encompasses five distinct stages: pre-contemplation, contemplation, preparation, action and maintenance. Individuals in the pre-contemplation stage are not seriously thinking about making a change in the future (*eg* not in the next six months). They may be in this stage because they are uninformed or under-informed about the consequences of their behaviour or have given up trying. In the case of HIV testing, this translates to having never been tested and a lack of awareness of the benefits of testing and risk reduction. Those in the contemplation stage are seriously thinking about making the change within the next six months. They are aware of the benefits of testing but are also aware of the barriers.

When people enter the preparation stage, they intend to make a change in the near future (*eg* in the next 30 days). They may have gone to a doctor and requested testing, or found out the cost of testing. Individuals in the action stage have begun engaging in the new behaviour in the last six months and may have tested at least once. Maintenance is reached when behaviour is continued after six months and goes on for two to three years. In HIV testing, this may be seen in women that re-test after risk assessment, in subsequent pregnancies or encouraging others to test. The model also describes "processes of change" which are specific strategies used to move from the various stages (11).

This study aimed to understand the stage of readiness for HIV testing among women 16–45-years in Westmoreland, Jamaica, and to determine the factors associated with movement to a higher stage of readiness. The trans-theoretical model of behaviour change was used as the basis for this assessment and the Western Region Health Authority gave ethical approval for the study.

SUBJECTS AND METHOD

A cross-sectional study using an interview-assisted questionnaire was undertaken in 2004. Women were recruited from either antenatal or child health clinics in the parish. Two rural and two urban facilities were randomly selected with the aim of interviewing 100 women from each facility with equal proportions of pregnant and non-pregnant women. Women were eligible if they were sexually active and between the ages of 16 to 45 years. They were ineligible if they were known to be HIV positive.

Women were selected using the clinic registration sheet on the clinic days. In the antenatal clinics, each woman that presented to the antenatal clinic was interviewed as long as she was registered, eligible and verbally consented to participate. A similar procedure was utilized in the child health clinics except the name of the child was used as the sampling frame from the registration sheets.

Knowledge of transmission was evaluated by asking a series of true or false questions about HIV/AIDS, its cause and modes of transmission. Knowledge of the benefits of testing was examined similarly with other questions asking specifically about the benefits to be derived from knowledge of one's status. Accurate responses were summed and a score of less than 60% was classified as poor knowledge, 60–79% good knowledge and over 80% excellent knowledge.

Risk perception was measured using a Likert scale and asking the question: "*Do you think you are at risk of contracting HIV?"* Individuals that disagreed or strongly disagreed were classified as no risk and those that agreed or strongly agreed were classified at some risk.

Stage of change was measured using a schema which allowed for the classification of responses to the questions, '*Have you ever been tested for HIV?*' and '*Are you planning to get tested or tested again?*' These questions were also put in a time-frame in order to assess level of contemplation, action or maintenance.

Data analysis was done using SPSS version 11.5. Chi-squared test was used to compare categorical data. Associations were examined using Spearman's correlation at $p < 0.05$ level of significance. Factors used in the univariate analysis for associations with stage of change included age, union status, educational level, parity, area of residence, employment status, knowledge of HIV transmission and benefits of treatment, personal risk perception and pre-test counselling at a previous test. Significant associations were then analysed using multivariate logistic regression.

Four models were employed as women who had previously tested would be influenced by the experience. Those who had not previously tested would only be categorized in the first three stages of the trans-theoretical model of behaviour change. The models therefore looked separately at: pregnant women, previously tested; pregnant women, not previously tested; nonpregnant women, tested previously; nonpregnant women, not previously tested.

RESULTS

There were 372 respondents, 173 pregnant and 199 non-pregnant. The pregnant group consisted of significantly more teenagers and women of lower parity compared to the nonpregnant group. In both groups, 55–60% of the women were from urban areas and were either married or in common-law relationships. The majority had secondary school education and were unemployed (Table 1).

There were no significant differences in knowledge, perceptions and practices between pregnant and non-pregnant women. Most of the women had excellent knowledge about transmission of HIV and the benefits of HIV testing. Personal risk perception was, however, low in both groups with only four out of ten women perceiving themselves at some risk of becoming HIV-infected. Less than half of the women had been previously tested for HIV (Table 2).

Table 1: Socio-demographic characteristics of population

Type of client	Pregnant (173) %	Nonpregnant (199) %	*p*-value
Age Groups			
16–19	34.1	24.6	0.03
20–24	35.3	31.7	
25+	30.6	43.7	
Parity: (%)			
0	39.3	1.0	< 0.001
1–4	57.8	88.9	
5+	2.9	10.1	
Area of Residence			
Urban	59.5	54.8	ns
Rural	40.5	45.2	
Union Status			
Married/Common law	54.3	60.3	ns
Other	45.7	39.7	
Education			
Primary	1.7	0.5	ns
Secondary	87.3	93.4	
Tertiary	11.0	6.1	
Employment			
Unemployed/student	78.5	72.9	ns
Full-time/Part-time	21.5	27.1	

ns = not significant

Table 2: Knowledge, perceptions and practices of respondents

Type of client	% Pregnant (n = 173)	% Nonpregnant (n = 199)
Knowledge of Transmission		
Poor (< 60)	4.0	4.0
Good (60–79)	14.5	19.6
Excellent (> 80%)	81.5	76.4
Knowledge re benefits of Testing		
Poor (< 60)	11.6	12.1
Good (60–79)	16.8	15.6
Excellent (> 80%)	71.7	72.4
Risk Perception(self reported)		
No risk	57.2	60.8
At risk	42.8	39.2
Previously tested	48.3	45.7

Previously Tested

Significantly more of the nonpregnant women who had tested were in a union ($p < 0.001$) and were older ($p < 0.01$). However, less had been counselled. The main reason for testing in both groups was pregnancy.

In the women who had previously tested (Fig. 1), the majority of the pregnant women had relapsed to action stage

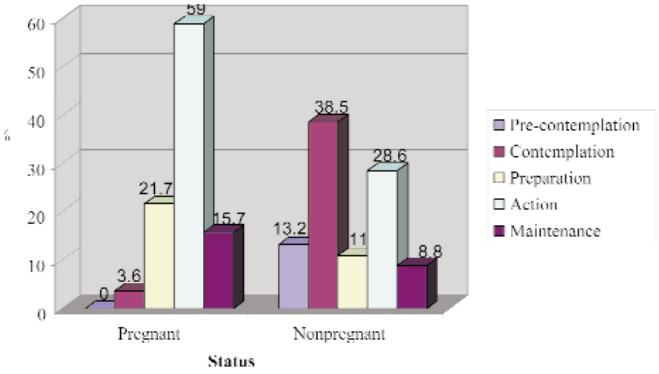

Fig. 1: Stage of change in previously tested women

(59.0%) while most non-pregnant women had relapsed to the contemplation stage (38.5%). Logistic regression showed that among pregnant women, those between ages 20–24 years, with a first pregnancy and a history of being counselled in the previous test were more likely to be at the action or maintenance stages (Table 3). No significant associations were found in women who were not pregnant.

Table 3: Odds Ratio for being in action or maintenance stages with respect to HIV testing in pregnant women who had a previous HIV test

Factors	*Pregnant women*
	OR (CI)
Age Groups (years)	
16–19	1.5 (0.4, 6.0)
20–24	*15.8 (1.0, 247.6)
25+	1
Gravidity	
No/single pregnancies	*12.3 (1.1, 142.6)
Multiple pregnancies	1
Test Type	
Not counselled	1
Counselled	*14.9(2.8, 79.6)

***p* < 0.05**

Not previously Tested

Among those women who had never been tested, 78.7% of those who were pregnant were in the preparation stage and 17% were at the contemplation stage. Most nonpregnant women were in the contemplation stage (68.5%). Logistic regression (Table 4) showed that the only predictor for being in a higher stage among the nonpregnant women was that those in a non-cohabitating relationship were more likely to be in the preparation stage (OR = 2.6, CI = 1.0, 6.6). There were no significant associations for pregnant women.

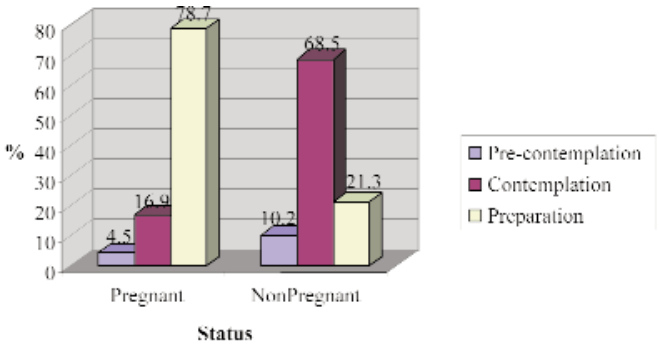

Fig. 2: Stage of change in women who had not tested previously

DISCUSSION

Marketing of VCT has not been targeted to nonpregnant women and may explain why most of these women were in the contemplation stage. This stage may also be perceived as appropriate if they were tested in a previous pregnancy. Non-pregnant women who had not tested before and were in unions were less likely to be in a high stage of change. This is supported by other studies (13–14) where low risk perception and fear of partner's response are important barriers in these women (16).

Strategies to improve uptake in this group include integration of VCT into family health services including family planning and curative care. Prevention interventions need to establish testing protocols for women who are not pregnant especially those in unions or those that exhibit high risk behaviour to guide frequency of screening for HIV. Aggressive marketing of VCT targeting these women should use healthy role models and imagery. This serves to encourage self-examination resulting in clarification of values and personalisation of the information to allow progression through the stages of change towards action and maintenance (12).

Most pregnant women were preparing to do or had recently done, a HIV test. This is as a result of the PMTCT programme which targets this group actively encouraging them to test. Interventions must be designed to encourage maintenance of this desired behaviour and ensure that women recognize its importance outside of pregnancy.

Pregnant women who had tested before were more likely to be in a higher stage of change if they were primigravidae or 20–24 years old. Similar findings in other studies (13, 14) may be due to increased risk perception and a greater willingness to adapt new behaviours among younger persons. The higher stage of change associated with being pre-test counselled at a previous test is consistent with studies that have shown that improved attitudes, perception of health services and provider trust improve uptake of testing (14–16). These can all be achieved with pre-test counselling (10).

Strategies to ensure maintenance of the behaviour include those that allow reinforcement management and sup-

portive environments (12). Interventions therefore include reinforcement of messages outside the antenatal setting in varying services *eg* family planning and from healthcare workers at the different levels of interaction. A supportive environment is created when other barriers to HIV testing are addressed including reduction of HIV-associated stigma and improved treatment, care and support for Persons Living with HIV/AIDS.

One limitation of the study was the inability to achieve the desired sample size as the clinics in the rural areas serve smaller communities and there were time constraints. The Prevention of Mother to Child Transmission (PMTCT) of HIV programme influences the stage of change in pregnant women as they are actively encouraged to test at pregnancy. This may have biased the findings, however women may decide independently to act positively to protect their unborn child – a stimulus not present among women who are not pregnant. Consensus is lacking in other studies about the effect of various factors on the uptake of HIV testing as there are few consistent findings and results vary with the population being studied (12–13).

CONCLUSION

There is still low personal risk perception although knowledge of HIV/AIDS is excellent; so providing information is not enough. Theory-based research provides the basis to shape effective interventions for women that increase risk perception and foster self-efficacy. Pregnant women were mainly at the preparation and action stages and this was influenced by the PMTCT programme. Future interventions should reinforce messages and create a supportive environment to enable maintenance of the behaviour. Increased testing in teenagers, nonpregnant women and older women in unions may be achieved through integration of VCT into family health and curative services, especially with established testing protocols that highlight the importance of testing the general population. Control of this epidemic requires evidence-based, multidimensional approaches with better simultaneous targeting of messages to selected at-risk groups.

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