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Title: The outcome of a training programme (RESPECT¹) on staff's attitudes towards causes and management of aggression in a Regional Referral Hospital of Northern Uganda.

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¹ The name RESPECT is an acrostic that covers the core values of the program: Respect, Excellence, Support, People, Equality, Culture and Trustworthiness.

Abstract

Introduction. Occupational violence has been demonstrated to impact negatively on the wellbeing of nurses and patients. Staff attitudes towards causes and management of patients' aggression influences their practice. Training is likely to influence attitudes towards aggression; however, Uganda's health system lacks adequate resources to provide aggression management training for staff.

Aim. To assess the impact of a training programme (RESPECT) on staff attitudes towards causes and management of patient's aggression in a Ugandan hospital.

Methods. This study used a mixed-methods convergent design. A convenience sample of nurses and support staff employed in the psychiatric ward and other services across the hospital (N=90) completed the Management of Aggression and Violence Attitude Scale (MAVAS) pre-and-post-training. The views of a smaller sample (n=35) were captured via interviews and focus groups and analysed using thematic analysis.

Results. Participants reported greater agreement with patients' physical and social environment (External and Situational causative models) as factors influencing patient's aggression. Qualitative findings substantiated the results identified in the survey. Attitudes towards seclusion, restraint and medication remained unchanged.

Discussion and Implications for practice. RESPECT has the potential to change staff attitudes towards aggression in the short-term. Further research is needed to investigate long-term effects and impact on incidents of aggression.

Relevance statement

Most day-to-day patient care is conducted by nurses and support staff, and as such they are more vulnerable to patient's aggression. In Uganda, the prevalence of workplace violence within healthcare is largely speculative, however, this problem is likely to be significant as public hospitals lack financial and human resources to cover the countries' demands, particularly for psychiatric care. Furthermore, training in management of aggression is not available within the national curriculum for health-workers. This study evaluated whether a staff training programme (RESPECT) had an impact on attitudes towards causes and management of aggression in a hospital in Northern Uganda. (Word count: 100)

Accessible Summary

What is known on the subject?

- Health systems in many low to middle income countries (LMICs) are heavily underfunded and staff training opportunities are limited.
- There is a lack of empirical data on the development and use of sustainable training programmes in aggression management skills in LMICs

What this paper adds to existing knowledge?

- After RESPECT participants showed greater agreement with statements about the role of environmental and relational factors as antecedents of aggression and described favouring the use of non-physical techniques to manage aggressive behaviour.
- Attitudes towards management practices of seclusion, medication and restraint remained unchanged after RESPECT training.

What are the implications for practice?

- Training programmes like RESPECT may be useful to improve attitudes towards causes of aggression and its management in LMIC hospitals. However, further evidence is required to demonstrate whether these results can be sustained over time and whether these attitudinal changes are associated with reduction of workplace violence.
- Mental health nurses and other mental health professionals can play a key role in establishing hospital wide training and sharing skills across geographical boundaries

Keywords: Nursing; Workplace violence; Aggression; Global Mental health care; Staff training; Attitudes; LMIC.

Introduction

The Ugandan government allocates less than 1% of its national health budget to mental health care (Ssebunnya, Kigozi, Kizza, & Ndyabangi, 2010). Consequently, psychiatric facilities lack the basic material and human resources to provide an adequate service and it is estimated that 90% of people suffering from psychological distress do not receive treatment (Nakigozi et al., 2013; WHO, 2006). Moreover, recent reports have raised concerns about human right violations within psychiatric institutions, where management of aggression is largely based on coercion and involuntary medication (MDAC, 2015).

Despite recent work to reform mental health services in the country, for instance, by attempting to integrate mental health services into primary health care (Ssebunnya et al., 2010) and the Mental Health Policy draft written in 2004 (Faydi et al., 2011), practices to manage disturbances associated with psychological distress remain typically based on coercion and compulsion. Indeed, a report by the Mental Disability Advocacy Centre (MDAC, 2015) highlighted the continued presence of negative conditions in many psychiatric institutions in the country, where restrictions of liberty and inadequate facilities

have raised concerns about human rights violations. Furthermore, practices of assessment and monitoring are inconsistent and training in aggression management skills is not available within the Ugandan curriculum for health providers (Couper et al., 2018; MDAC, 2015).

Employees working in health care services have a higher level of contact with distressed people, which makes them more likely to face incidents of aggression than other occupational groups (Chappell & Mayhew, 2002; Rippon, 2000); this is especially true for those working in services deprived of resources, as such conditions place additional burden upon the staff-patient relationship (Simonowitz, 1996). Workplace violence has a negative impact on the quality of the healthcare service and safety of both patients and health practitioners (Holloman Jr & Zeller, 2012; Richmond et al., 2012). Workplace violence in health settings places additional physical and psychological burden on nursing staff and is associated with higher risk of psychological distress in this occupational group, including depression, burn-out and post-traumatic stress disorder (Ferns & Chojnacka, 2005; Gates, Gillespie, & Succop, 2011). As a result, financial costs of workplace violence are associated with absenteeism, compensation claims and issues with recruitment and retention of nursing staff (Beech & Leather, 2006).

Management of aggression

According to Duxbury (2002), aggression within health care settings has a multifactorial aetiology, mainly grouped within three models of causation; internal, external and situational. The internal model explains aggression as the result of factors intrinsic to the aggressive person. The external model, on the other hand, defines aggression as a product of the impact that surrounding factors have on the aggressive individual, for instance, their social environment, the physical setting of the treatment unit or the of the way it operates. Lastly, the situational model proposes aggression, as the product of the interaction between

patients and others. The attitudes of staff towards causes of aggressive incidents influences the way workplace violence is managed in health settings (Calabro, Mackey, & Williams, 2002; Duxbury, 2002).

Management of aggression has traditionally followed a coercive approach, which aims to control aggression through methods such as tranquillizing medications, restraint and seclusion. However, recent perspectives support the use of integrative models that emphasize preventive methods of management and the use of non-restrictive interventions (Beech & Leather, 2006; Di Martino, 2002). This approach emphasises the use of non-physical methods and acknowledges the role of the healthcare worker in providing effective communication, and de-escalation techniques (Calabro et al., 2002; Duxbury, 2002).

In high income countries, management of aggression and violence has largely moved towards the use of non-coercive methods, and training nursing staff in management of aggression skills (e.g. de-escalation) has been associated with reduction in the use of restraint (Livingston, et al., 2010; Morrison et al., 2002). Training health care staff in management of aggression is one of the most utilised strategies to improve service quality and staff safety in high income countries (Wassell, 2009; Wiskow, 2003). However, reports on the effectiveness of training strategies are not conclusive as to what specific components predict sustainable reduction of workplace violence (Beech & Leather, 2006; Wassell, 2009), and some studies report non-significant effects of aggression management training on attitudes towards patient aggression (Hahn, Needham, Abderhalden, Duxbury, & Halfens, 2006). Future research is required to assess the contribution of individual elements of training packages, and future studies should also use more sophisticated measures of outcome (Iennaco, Dixon, Whittemore, & Bowers, 2013).

This study aimed to test whether a 4-day training program in management of aggression (RESPECT) had an impact on attitudes towards causes and management of aggression in a sample of nurses and support staff of the Gulu Regional Referral Hospital (GRRH) in Northern Uganda. A mixed-method design was used to assess attitudinal change of the staff via a pre-post-test, using the Management of Aggression and Violence Attitude Scale (MAVAS: Duxbury, 2002), and a mixture of follow up semi-structured interviews and focus groups.

RESPECT training

RESPECT is a training program developed by NAViGO Health and Social Care and certified by the British Institute of Learning Disabilities (BILD; See table 1). The training is 70% prevention, 20% de-escalation and 10% reactive strategies (see table 1 for details). Since 2012, RESPECT has been part of the training curriculum for Sheffield Health and Social Care NHS foundation trust (SHSC), where all staff are required to complete at least one level of the training. RESPECT follows the train-the-trainer (TtT) model, in which a selected group of participants is selected and trained to create a pool of competent trainers that can teach their peers about the course content (e.g. Pearce et al., 2012).

RESPECT has been delivered by Gulu-Sheffield Mental health care partnership since 2013 and to the best of our knowledge, no training in management of aggression had been offered to the staff in the GRRH before that time. This study is the result of the monitoring and evaluation strategy implemented as part of a 20-month project funded by The Tropical Health and Education Trust (THET) between November 2015-April 2017. Prior to obtaining the THET funding, a qualitative assessment of RESPECT (i.e. Hammond, Thompson, & Parker, 2015) in the GRRH suggested increased understanding of workplace violence causes and management following the training, which led to greater feelings of safety and improved

relationships with other co-workers and patients. However, the findings of Hammond et al (2015) were based on participants' subjective experiences and no pre-post assessments, nor measurement of actual incidents were collected. As a consequence the present study aimed to investigate whether the RESPECT training had an impact on attitudes towards aggression in a sample of health providers employed at the GRRH.

[Insert table 1]

The study

Aims

The study aimed to evaluate the impact of the RESPECT training on staff attitudes towards causes and management of aggressive incidents. The following hypotheses were tested:

- Participants of the training will show significant attitude change about causes of aggressive incidents, demonstrated by greater agreement with environmental and inter-personal factors as predecessors of aggression.
- Participants will demonstrate a change in attitudes towards management of aggressive behaviour after the training, specifically: less support for coercive methods (i.e. seclusion, medication and physical restraint), and increased support for non-physical management methods (i.e. verbal de-escalation).

Design

A convergent mixed methods design (Fetters, Curry, & Creswell, 2013) was used: (1) a questionnaire designed to measure attitudes towards causes and management of aggression was administered to participants before and immediately after completion of training, and (2)

individual semi-structured interviews and focus groups were conducted to collect detailed accounts of the experience of the training and of using it in practice.

As the study was an evaluation of existing practice it required clinical governance approvals and this was sought from both contributing organisations (Department of Health, 2005). Clinical governance approval was obtained from the Sheffield Health & Social Care NHS Foundation Trust and from Gulu Regional Referral Hospital. Staff undergoing the training were informed about the aims of the study and provided informed consent for their participation. Additional informed consent was sought from those participating in the focus groups and interviews.

Setting

The RESPECT training and evaluation were carried out at the GRRH, one of the 14 Regional Referral Hospitals (RRH) in the country. The hospital has 397 beds and it serves the largest metropolitan area in Uganda's Northern Region, with a population of 436,345 people from the five Northern districts and neighbouring South Sudan (Owich, 2017). Mental Health services in Gulu are provided through their Regional Mental Health Unit (MHU), which has 40 of the hospital's total bed capacity and also offers outpatient services for the region. Like most RRHs in the country, Gulu faces significant underfunding issues and health workforce shortages; only 1 out of the 13 medical consultant positions are filled across the hospital and the mental health unit operates without a consultant in psychiatry (Muwanga, 2015). Furthermore, out of the 359 staff composing the workforce at the GRRH, only 41% are professionally qualified staff, with the remainder in support roles (e.g. Nursing assistants, security personnel, drivers).

Recruitment

This study used a convenience sampling strategy to recruit employees from different services across the GRRH. The RESPECT instructors leading the courses informed staff about the availability of the training via word of mouth. Those willing to take part in the training received written information about what the training sessions entailed (i.e. physical assessments and evaluation). Then, participants signed written consent prior to their participation. Nine 4-day RESPECT training courses were conducted during the period of November 2015 until April 2017. All participants of the training were eligible to participate in the quantitative study (MAVAS; Duxbury, 2002), however, this was not a requirement of receiving the training. No monetary incentive was given in exchange for taking part in the training.

For the qualitative part of the study, a convenience sample was recruited amongst hospital staff that had completed the training at least 4-weeks before the interview or focus group. Prior to providing written consent, staff willing to take part in the interviews and focus groups were informed about the aims of the study and confidentiality procedures involving the data handling. Interviews and focus groups were conducted face-to-face and they took place in the GRRH.

Sample size calculation. The estimated sample size required for a Wilcoxon signed-rank test was determined using power analysis on the software G*Power 3.1 (Faul et al., 2009). Using an alpha of 0.01, a power of 0.80, and an effect size calculated from the changed observed on attitudes towards causes and management of aggression in Gerdtz et al. (2013; $f = 0.43$), the desired sample size to assess attitude change for this quantitative analysis was 70.

Data collection and analysis

Incidents of aggression in the GRRH. As was the case for most of RRH, health management information systems in the GRRH relied on manual record keeping that did not include records on incidents of aggression (MDAC, 2015). In response to this lack of documentation, incident books were introduced by the RESPECT team in all wards for staff to record episodes of aggression. The books were filled anonymously between February 2016 and February 2017 following the format of the Staff Observation Aggression Scale (SOAS-R; Nijman et al., 1999). A research assistant was allocated to monitor and summarise a monthly account of the registers. Incidents were collected within a brief time scale and there was no baseline to compare against, thus it was not feasible to conduct further analysis linking number of incidents to RESPECT, however, descriptive summaries of the data collected in this period served to contextualise the setting where the training was conducted.

The MAVAS. The Management of Aggression and Violence Scale (MAVAS: Duxbury, 2002) is a 27-item questionnaire that measures attitudes towards causes and management of aggressive incidents. This scale measures four key constructs, corresponding to three explanatory models of the causes of aggression (internal, external and situational; also known as interactional model) and specific views about the management of patient aggression (Duxbury, 2003). To ensure that the MAVAS was usable in a Ugandan context, it was piloted with local health care providers and as a result minor changes were made to the language. The questionnaires were distributed in paper form for participants to complete in one sitting under supervision of the trainers, prior the beginning of the programme and immediately after it. Respondents were asked to indicate their degree of agreement with each statement using a Visual Analogue Scale (VAS), presented in the form of a 100mm line with responses ranging from “Strongly agree” (0 mm) to “Strongly disagree” (100mm). Within this sample, internal reliability was questionable with Cronbach’s Alpha of .68.

Differences between demographic characteristics of the sample and baseline values of the MAVAS were assessed using Mann–Whitney test for independent samples. Changes in pre and-post measures of the MAVAS were evaluated using Wilcoxon signed-rank test, as data failed normal distribution assumptions for a parametric analysis. Analysing change at item and construct level involved a considerable number of statistical tests to be run and therefore a more conservative probability threshold of 0.01 was nominated to assess statistical significance. Following previous reports of the MAVAS (e.g. Gerdtz et al., 2013; Pulsford et al., 2013), the original VAS scale was transformed into ordinal scales to facilitate interpretation and comparison of results; ‘Agree’ = Mean 0–40 mm, ‘Indecisive’ = Mean 41–60 mm, and ‘Disagree’ = Mean 61–100mm. Quantitative analysis was performed using the statistical software package SPSS Inc. in Chicago Version 23.0.

Interview and focus groups. Researchers conducting the interviews and focus groups were not involved in the delivery of the training but were known to interviewees in their capacity of researchers conducting monitoring and evaluation activities for the partnership. Participants were informed of the research aims of the study and data collection was conducted in English by the first and third author and supported by a Ugandan assistant recruited from the local community. Interviewers took field notes and participants were voice recorded. The material was transcribed verbatim by the local Ugandan research assistant and transcripts were reviewed by the first and third author to assess richness and familiarise with the data, prior to undergoing thematic analysis.

Interview schedule. The interview schedule (see appendix 1) was designed to gain feedback on the program and ascertain the degree to which it had been useful. A 10-question semi structured schedule and six associated prompt points were prepared to cover the following areas:

- Effects of the programme on attitudes towards management of violence and aggression
- Perception of staff safety and confidence
- Use of de-escalation techniques
- Use of physical and relief interventions
- Challenges in utilising the training

Analysis of interview findings. A descriptive form of thematic analysis was performed. The analysis was performed acknowledging the researcher as an active part in the finding of the conceptual themes; for the purpose of this evaluation, the theoretical position of the researchers was that of Duxbury (2002) regarding attitudes towards causes and management of aggression. Thus, the themes were identified in a theoretical or deductive fashion (Hayes, 1997), focusing on the impact of RESPECT on attitudes towards causes and management of aggression to complement the MAVAS' findings. However, care was taken so as to also allow new themes to be identified if evident in the data.

The thematic analysis was informed by Joffe (2012) and Braun and Clarke (2006); data transcript and initial ideas were extracted by the first author, who read and re-read the data to achieve familiarisation; then, initial codes were generated by grouping data to relevant codes. Once initial codes were identified, these were collated into themes that responded to the research question. Themes were then reviewed and analysed to create a thematic map. The process was followed by a process of defining and naming relevant themes in response to the initial research question.

The analysis was performed using the qualitative data analysis software NVivo 11 for Windows. The first author led on the coding and theme identification (phases 1-5). To ensure reliability of the data analysis, transcripts were reviewed by the second author. Additionally,

all authors performed an audit of the analytic process, which included revision of interview notes, conceptual maps and codebook of the data (Speziale, Streubert, & Carpenter, 2011). Discrepancies were addressed via discussion with other authors of this study.

The MAVAS and the qualitative component of this study used the theoretical framework proposed by Duxbury (2002), which facilitated methodological integration using the merging approach; statistical and thematic analysis were conducted separately before both datasets were brought together for analysis and comparison in terms of causative factors (internal, external, relational) and management of aggression. Interpretation and reporting of qualitative and quantitative findings were integrated through narrative using a contiguous approach (Fetters et al., 2013; O’cathain, Murphy, & Nicholl, 2008).

Findings

Demographics

A total of 169 staff members were trained in RESPECT during the period 2013-2017; this evaluation captured quantitative data from 109 participants who consented to take part in the evaluation carried out in the GRRH within the period of November 2015 to April 2017. A total of 9 courses were conducted during this time with an average of 12 participants per course. Facilitators of one of the sessions did not collect pre-post measures of the MAVAS, leaving a dataset of 97 nurses and support staff who completed the evaluation package at least at one time point. Five participants did not complete the MAVAS at time one and two failed to complete it at post-test. Thus, statistical analyses were conducted with data from 90 participants who completed the MAVAS at pre and post-test. See figure 1 for details.

[Insert figure 1]

Participants were mainly females (n = 69) and the largest cadre group was nurses (n = 56), of which 19 were employed in the mental health unit. Results from a Mann-Whitney test

for independent samples (accounting for non-normal distribution of the dataset) did not differ between MAVAS scores at baseline and participants of different gender ($p=0.21$), position ($p=0.25$), ward/department ($p=0.33$) or years of service ($p=0.08$). See table 2 for details

[Insert table 2]

Qualitative data were collected between April 2016 and April 2017. A total of 35 staff participated in twenty-three individual interviews and three focus groups, which had a mean duration of 14 and 35 minutes, respectively. The proportion of males ($n= 19$, 54%) participating in the qualitative component was higher than in the quantitative part of the study. The sample included a range of staff types, including: Support staff (e.g. Mental health nursing assistant; $n=9$) and Nurses ($n= 9$). See table 3 for details.

[Insert table 3]

Attitudes towards causes of aggression

Change in attitudes towards causes of aggression was analysed as per the theoretical constructs that underpinned the MAVAS. See table 4 for details.

[Insert table 4]

Internal causative factors (5 items). Just under a third of the sample ($n=29$) showed agreement with internal causative factors of aggression at post-test, however, the difference between pre and post intervention was non-significant, $Z=-0.32$ $p=0.74$. Individual items belonging to this construct also showed no statistically significant difference at post-test, except for item 4 (i.e. It is difficult to prevent patients from becoming aggressive), in which participants reported a greater level of disagreement at post-test, $Z= -3.01$ $p= 0.003$. See table 8 for details on individual items.

External causative factors (3 items). At post-test participants showed greater agreement with items composing the external causative model and this change was statistically significant, $Z=-3.42$, $p < 0.001$. All items composing this construct showed greater level of agreement post intervention and in items 1 and 27 the change was statistically significant, $Z=-4.46$, $p < 0.001$ and $Z=-3.98$, $p < 0.001$, respectively. See table 5.

[Insert table 5]

Situational causative factors (5 items). A statistically significant change regarding the situational causative factors was observed, $Z=-3.68$, $p < 0.001$. Two individual items within this construct also showed statistically significant change, namely; item 2, $Z=-3.40$, $p=0.001$ and item 6, $Z=-2.43$, $p=0.005$. The remaining items (item 3, 20 and 23), did not yield any significant change at post-test. See table 6 for details.

[Insert table 6]

Management of aggression (14 items)

Participants did not show any significant change in attitudes regarding general management of aggression (2 items), $Z=-2.03$, $p=0.04$, use of medication (3 items), $Z=-0.43$, $p=0.66$, use of seclusion (3 items), $Z=-0.55$, $p=0.58$ or use of restraint (2 items), $Z=-2.05$, $p=0.04$. Nevertheless, individual items within the management construct did show a significant change at post-test, specifically item 22, $Z=-3.19$, $p= 0.001$. See table 9 for details.

The sub-construct of use of non-physical methods (4 items) showed a significant change, with participants reporting greater agreement at post-test, $Z=-2.69$, $p=0.007$. Individual items within this construct showed statistically significant change post-training, specifically item 15, $Z=-1.91$, $p=0.01$, and item 26, $Z=-4.77$, $p < 0.001$. See table 7 and 8 for details.

[Insert table 7 & 8]

Interview findings

In accordance to Duxbury's model, the main themes extracted from the interviews were: Internal, external and relational causative factors and management of aggression (Duxbury, 2002). Thus, the analysis was made based on two main themes and 5 sub-themes that made explicit the impact of the training on staff attitudes about causes and management of aggression (see table 9).

[Insert table 9]

Causative factors of aggression. All causes of aggression associated with the theoretical framework of this study were found within the discourse of participants; the internal model emerged within the discourse of eleven participants, for whom aggression was inherent to the patients' self:

"I feel bad when they are aggressive, because they can hurt you. They can do anything, because they don't know anything what they are doing." (P11)

Or the expression of psychological distress:

"... what I think when they get more like aggressive, we know those are major signs of a patients' illness because there are those signs (...) so we really know it is the sickness making them to be irritable" (P18)

The external causative model emerged within the discourse of eighteen participants, whom attributed the patients' environment as the main factor causing aggression. However, rather than the physical surroundings, most participants regarded the patients' social environment (i.e. communities and family circles) as principal source of the aggressive incidents witnessed in the hospital's wards:

“One, it all depends on the surrounding. (...) maybe someone said something, you know, that eye contact, you know, those facial and all those gestures, you know, can let someone, you know, lose it a bit, and get aggressive. So, I feel it also, it depends on the surrounding. That is what can, you know, trigger something up.” (P29)

Twenty participants described situational causative factors as the principal origin of aggressive incidents; the relationship between staff and patients was a major factor behind incidents of aggression:

“...sometimes they are communicating to you that they are in pain, their life is not safe, so all the aggression just come around their communication between the client and the staff.” (P22)

Management of aggression. Sixteen participants described the use of coercive physical methods to manage aggression like use of medication and restraint; however, after the RESPECT training, staff emphasised the use of reasonable force and only after non-physical approaches fail:

“We used just to prick them from the back with the medicine, but this time you first calm them, you give them medicine, then they relax. I’m seeing a lot of improvement.” (P4)

Over half of participants reported using non-physical methods to manage aggression (n=20, 57%), for example, verbally engaging with the patients in distress:

“(...) we used to lack even that ethical handling of patients, like especially de-escalation, but when the RESPECT team came in they started teaching us about de-

escalation (...) there were patients who were responding to that, which was not happening before the *training*.” (P19)

Incidents of aggression in the GRRH

Out of a total 43 reported incidents, 19 occurred in the mental health unit, followed by the main entrance (n=10). Most incidents were triggered by staff trying to provide help (n=30) and the patient being hungry (n=5). Patient aggression was reported to take several forms and degrees of severity, from verbal abuse (n=3) to use of implements like knives and stones (n=7). Verbal de-escalation was the most reported utilised method to manage aggression and staff perceived warning signals in 29 cases. Perceived severity as measured by the VAS scale (0-100), ranged from 10 to 90 and reached mean values of 64.15 (SD=23.3), which compared with samples of incidents recorded in a study conducted in Switzerland, were considerably higher (e.g. Abderhalden et al., 2007; M= 34.4 SD= 26.26). See table 10 for full details.

[Insert table 10]

Discussion

This study aimed to evaluate the effect of an educational intervention (RESPECT) on attitudes towards causes and management of aggression in a sample of Ugandan nurses and support staff. Two hypotheses were tested using a mixed-method convergent design; firstly, it was anticipated that participants would report a higher level of agreement with causative models of external and situational factors (Duxbury, 2002) following the training. Secondly, it was hypothesised that at post-test, participants would show greater agreement with management methods of non-physical nature like verbal de-escalation. To date, this is the

first study investigating attitudinal change following a training programme in a sample of Ugandan health providers.

Despite the known burden that workplace violence places on health systems across the world (e.g. Lanctôt & Guay, 2014), few studies have examined the effectiveness of training programs in LMIC (Sirpa, Pirjo, Raija, & Arja, 2017). Results from studies using the MAVAS to evaluate attitudinal change are contrasting. For example, a quasi-experimental pretest-posttest study conducted by Hahn et al, (2006) in a sample of Swiss nurses showed no significant attitude change at post-test. In contrast, Gerdtz et al. (2013) found significant shift in attitudes at post-test on 5 items that compose the MAVAS after the implementation of a 45-minute educational program and these results were endorsed by the findings of a thematic analysis conducted with data obtained by telephone at post-intervention. Different findings between these studies suggest that there might be additional variables underlying the effectiveness of the intervention strategy, including organisational culture, sociocultural differences and particularities of the specific training administered (e.g. quality, materials utilised, method of delivery, duration). Given the complexity of assessing these variables it is likely that a single measure to evaluate training efforts might not be enough.

Whilst most of the before and after findings from the measure were equivocal, attitudinal change was identified in three constructs of the MAVAS (i.e. External causative model, Situational causative model and Non-physical management) and in a total of eight individual items out of the potential twenty-seven composing this instrument (Duxbury, 2002). Regarding the fit, qualitative findings confirmed the findings of the MAVAS, as causative factors of aggression associated with the internal, external and relational models were recurrent themes within the discourse of participants. Furthermore, although the use of management strategies like medication and restraint were frequently identified within the

qualitative dataset, a greater percentage of participants reported using non-physical methods (e.g. verbal de-escalation) as main strategy to manage aggressive incidents.

Attitudes towards causes and management of aggression

There was a change in attitudes towards causes of aggression before and after the training, specifically, in relation to environmental and relational factors. According to Duxbury and Whittington (2005) this change is suggestive that after RESPECT participants were more likely to explain aggression as the result of the patients' environment or their relationship with service providers. External and situational factors were also found as themes within qualitative data, where participants' hypothesised incidents of aggression to be the result of social and physical surroundings, particularly associated with their lives in the community as well as their relationship with employees of the GRRH. These findings resemble results from a comparative study with Swiss and English samples implemented by Duxbury, Hahn, Needham, and Pulsford (2008), where UK participants expressed greater support for the external model of causation than their Swiss peers, who were more inclined towards internal causation factors. Perhaps because the training was an adaptation of a training program used with UK service providers, the intervention led participants to show greater consideration of environmental and relational factors rather than internal factors.

Internal factors were the least addressed causative model of aggression, with most participants reporting to be indecisive. Moreover, analysis of pre-test and post-test values did not show any significant change following the RESPECT training. However, qualitative findings indicated consideration of some factors inherent to the individual as a cause of aggression, such as psychological distress. Participants largely associated incidents of aggression with psychiatric disorders, suggesting that Ugandan service providers may have a strong tendency to pathologize workplace violence. This is not exclusive to this sample, as

other studies have shown this pattern in Western samples too (H. L. Nijman & Rector, 1999; Pulsford et al., 2013).

Perhaps one of the most interesting findings within this dataset were the attitudinal changes towards coercive methods of management of aggression; it was observed that there was greater agreement with the use of medication, restraint and seclusion amongst participants after RESPECT. Although these shifts did not reach statistical significance, the directionality of this observed changes or indeed the fact that attitudes towards these methods remained unchanged, suggest that coercive management methods within the GRRH were deeply ingrained amongst staff. Future implementations of RESPECT or other aggression management trainings would likely benefit from including further awareness material and emphasising alternative management skills that help reduce reliance on medication, restraint and seclusion in this population (e.g. Donat, 2005). As well as greater availability of training packages for the staff, policy and structural changes within the Ugandan health service would likely facilitate attitudinal and behavioural change in this context (Beech & Leather, 2006; Puplampu & Quartey, 2012).

Agreement with management of aggression without the use of coercive methods, significantly increased from the values observed pre-training. During interviews and focus groups participants expressed preferences for non-physical methods following the training, particularly the utilisation of verbal de-escalation techniques to address incidents of aggression. These findings provide evidence that support current approaches to management of aggression in the nursing field; according to Knox and Holloman (2012), the management of aggression within health settings, is moving towards the use of non-coercive de-escalation and minimal use of seclusion and physical restraint. These results support the use of initiatives like RESPECT to improve quality of care in health settings, including those operating within heavily under-funded systems.

Incidents of aggression

A total of 43 incidents were reported at the GRRH, with most of them (n=19) reported in the mental health unit. In line with the literature, this may indicate that patients with psychiatric diagnoses (e.g. schizophrenia) pose a higher risk for the occurrence of aggressive incidents (Chou, Lu, & Mao, 2002; Dack, Ross, Papadopoulos, Stewart, & Bowers, 2013; Grassi, Peron, Marangoni, Zanchi, & Vanni, 2001). In addition, higher severity ratings of incidents were reported in the Ugandan setting compared to European settings (Abderhalden et al., 2007). Uganda's health system has higher incidence of risk factors known to result in workplace violence, such as lack of adequate facilities, insufficient training packages and low staff-patient ratios, which may be associated with higher perceived severity (Kigozi et al., 2010). Further evidence is needed to explore prevalence of workplace violence in Ugandan settings and possible cross-cultural differences associated with them.

Limitations

There are several limitations to this study. Among them, the absence of a control group makes causation assumptions difficult and future evaluations would be enriched with more rigorous designs, such as RCT and analysis of longitudinal data. Additionally, attitudinal change was assessed using self-reported data, which risks biases inherent to this type of measurement, such as individual differences across respondents and efforts to respond in a socially desirable manner (Van de Mortel, 2008). Moreover, it is unclear whether attitudinal change as measured by the MAVAS persisted over time, as there were no follow up measures. The MAVAS is an instrument designed and commonly tested in Western health-settings; in this sample, internal reliability was questionable and thus, some caution is needed in the interpretation of our results. The majority of participants were not working in the mental health unit, so the results are not generalisable to groups who work in these

settings exclusively. Participants were not asked whether they had experienced workplace violence and the study only contained reports of attitudinal change, therefore there was no evidence as to whether RESPECT had any impact on levels of aggressive incidents or feelings of safety. Finally, the gender ratio was not controlled during the recruitment for the qualitative sample, which had a larger proportion of male participants. This may limit the qualitative findings representativeness of female staff experience of the RESPECT training.

Conclusion

Both quantitative and qualitative data suggest that the RESPECT training had a significant effect on the attitudes of staff towards causes and management of aggression. After the training, participants showed greater agreement with environmental and relational causative factors as main predecessors of aggression and with using non-physical methods, however attitudes towards seclusion, medication and restraint remained unchanged. While the study had limitations, both quantitative and qualitative findings suggest the programme has the ability to effect attitudinal change in healthcare workers.

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Tables and figures

Table 1.
RESPECT training content

| Day one | |
|---------------------------------------|--|
| Introduction to RESPECT | What is RESPECT? Video presentation about stigma Discussion: what is stigma and stereotyping? |
| Aggression in the workplace | Causes of aggression (Group work) Signs of aggression (Facial, vocal, postural signs) Factors associated with aggression Internal triggering factors External triggering factors |
| The crisis cycle | Group discussion and activities |
| Physical interventions (Part 1-Intro) | What is of reasonable force? and practical exercises |
| Day two | |
| De-escalation | What is de-escalation? Some de-escalation strategies Verbal de-escalation strategies |
| Non-verbal language | Tone of voice, listening, empathy, body language, personal space |
| Coping with stress | Group exercise and discussion? (What do you do to manage stress?) |
| Physical interventions (Part 2) | Practical exercises |
| Positional hypoxia | What is positional hypoxia? Causes of positional hypoxia Risk factors and warning signs Safe management strategies to avoid positional hypoxia |
| Breakaway techniques (Part 1) | Practical exercises |
| Day Three | |
| Post Incident Review (AKA de-brief) | What is a post incident review? Incident review for staff Incident review for service users Group discussion |
| Incident documentation | Use of incident books |
| Breakaway techniques (Part 2) | Practical exercises |
| Physical interventions (Part 3) | Practical exercises |
| Service user session | Service user experience of being restrained and group discussion |
| Day Four | |
| Seclusion | Group discussion |

Qualitative evaluation of physical interventions and breakaway techniques
Certificates

Table 2.
Descriptive statistics of SOAS-R (N=43)

| SOAS-R section | n | % |
|--|----|------|
| Ward | | |
| Mental Health Unit | 19 | 44.2 |
| Main entrance | 10 | 23.3 |
| Medicine ward | 6 | 14 |
| Maternity ward | 4 | 9.3 |
| Casualty | 2 | 4.7 |
| Surgery ward | 2 | 4.7 |
| Provoked by | | |
| Trying to help patient | 30 | 69.8 |
| Unknown cause | 7 | 16.3 |
| Hunger | 5 | 11.6 |
| Other | 1 | 2.3 |
| Means Used | | |
| Body (Hands) | 19 | 44.2 |
| Body (Other-whole body) | 11 | 25.6 |
| Objects (Stones) | 4 | 9.3 |
| Body (Mouth-verbal) | 3 | 7 |
| Body (Mouth-biting/spitting) | 3 | 7 |
| Object (Hammer/knives) | 2 | 4.7 |
| Object-Other | 1 | 2.3 |
| Consequences | | |
| Caused distress (i.e. Hunger, fear) | 33 | 76.7 |
| Caused physical pain | 7 | 16.3 |
| Caused waste of resources (food, water, furniture) | 3 | 7 |
| Measure used by staff | | |
| Verbal de-escalation | 16 | 37.2 |
| Patient escorted to MHU | 9 | 20.9 |
| Physical technique (T position, restrain) | 9 | 20.9 |
| Physical technique & medication | 1 | 2.3 |
| Was there enough staff present? | | |
| Yes | 40 | 93 |
| No | 2 | 4.7 |
| Not known | 1 | 2.3 |
| Were there warning signals? | | |
| Yes | 29 | 67.4 |
| No | 2 | 4.7 |
| Not known | 12 | 27.9 |
| Which warning signs? | | |
| Body Language | 27 | 62.8 |
| Not known/None | 12 | 27.9 |

| | | |
|-------------------------------|---|-----|
| Staring | 2 | 4.7 |
| Verbal (screaming, talkative) | 2 | 4.7 |

Figure 1.
Recruitment flow diagram

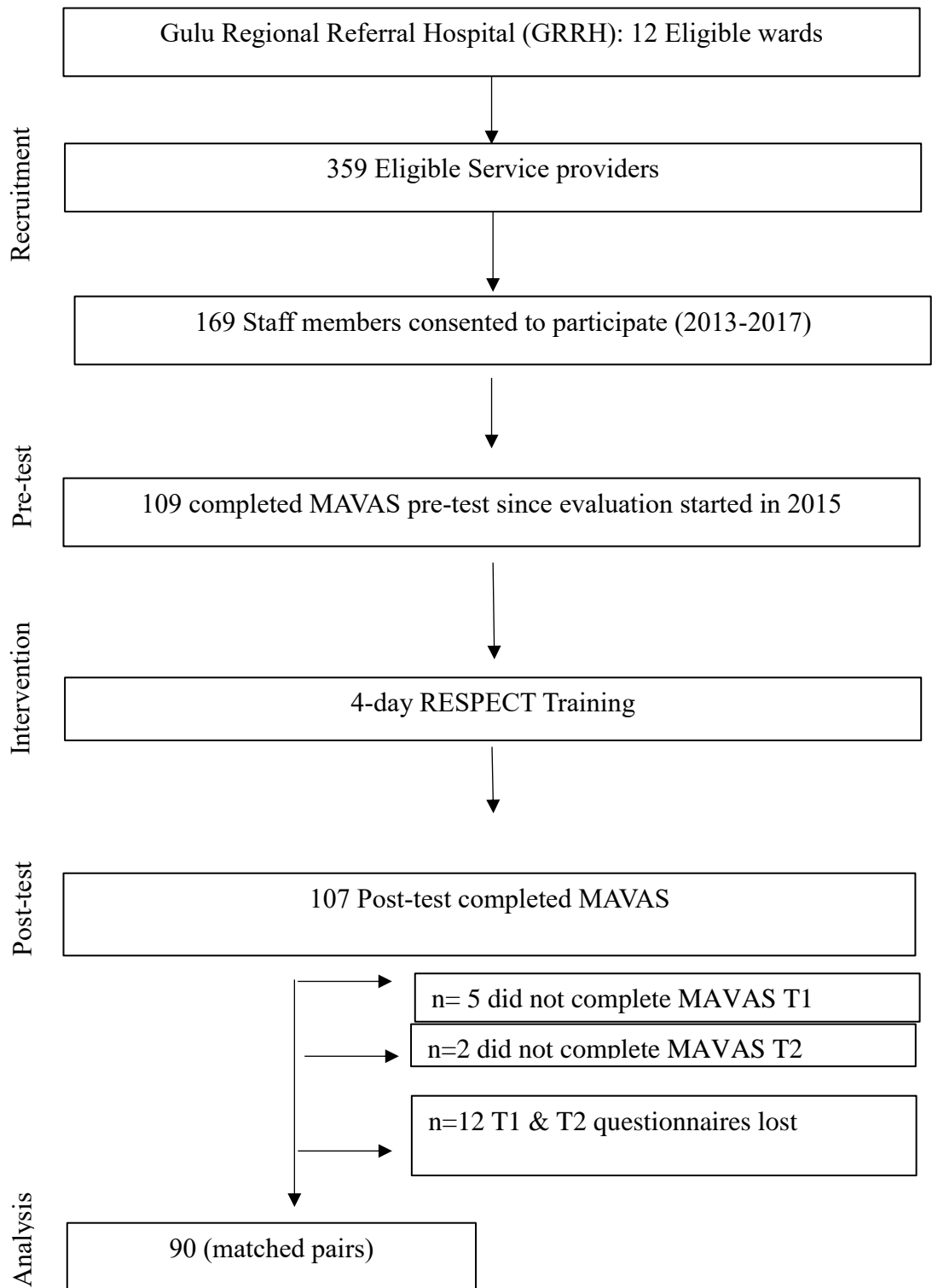


Table 3.
Demographics MAVAS (N=97)

| | n | % |
|-------------------------------|----|------|
| Gender | | |
| Female | 69 | 71.1 |
| Male | 28 | 28.9 |
| Position | | |
| Nurse | 56 | 57.7 |
| Health care support staff | 14 | 14.4 |
| Cleaner | 7 | 7.2 |
| Askari (Security) | 6 | 6.1 |
| Medic/PCO | 5 | 5.2 |
| Student/Trainee | 4 | 4.1 |
| Admin Staff | 2 | 2 |
| Other | 3 | 3 |
| Years of Service | | |
| Under a year | 15 | 15.5 |
| 1-3 Years | 18 | 18.6 |
| 3-5 Years | 15 | 15.5 |
| 5-10 Years | 19 | 19.6 |
| Over 10 Years | 25 | 25.8 |
| Missing | 5 | 5.2 |
| Ward/Department | | |
| Mental Health Unit | 19 | 19.6 |
| Non-Medical departments | | |
| Internal Medicine | 10 | 10.3 |
| Obstetrics/Gynaecology | 7 | 7.2 |
| Paediatric & Child health | 7 | 7.2 |
| Dentistry | 6 | 6.2 |
| Antiretroviral Therapy Clinic | 5 | 5.2 |
| Casualty | 5 | 5.2 |
| Mother and Child Health | 4 | 4.1 |
| Orthopaedics & Rehabilitation | 4 | 4.1 |
| Private Wing | 4 | 4.1 |
| Surgery | 3 | 3.1 |
| Laboratory | 2 | 2.1 |
| Ophthalmology | 1 | 1.0 |
| Ear Nose & Throat | 1 | 1.0 |
| Missing | 7 | 7.2 |

Table 4.
Demographics Qualitative Data (N= 35)

| | n (%) | M (SD) |
|---|-----------|---------------|
| Age | 35 (100) | 36.7 (8.6) |
| Gender | | |
| Male | 19 (54.3) | |
| Female | 16 (45.7) | |
| Position | | |
| Nurse | 9(25.7) | |
| Support Staff | 9(25.7) | |
| Security | 7(20) | |
| Administrative Staff | 3(8.5) | |
| social worker | 2(5.7) | |
| Technician | 2(5.7) | |
| Counsellor | 1(2.8) | |
| Medic/PCO | 1(2.8) | |
| Psychologist | 1(2.8) | |
| Department | | |
| Medical wards (ETN, Casualty, Children's ward) | 14 (40.0) | |
| Mental Health Unit | 11(31.4) | |
| Security department | 7(20.0) | |
| Not reported | 3(8.5) | |

Table 5
Wilcoxon test x Model

| | Pre-test Median (75th–25th percentile) Mean mm (SD) | Post-test Median (75th–25th percentile) Mean (SD) | Wilcoxon |
|-------------------|--|--|------------------------|
| Internal Model | I 48.17 (61.8-36.0) 48.24 (17.52) | I 50.0 (64.0-36-0) 50.30(18.75) | Z=-0.32 p=0.749 |
| External Model | I 41.33 (53.4-23.3) 40.85(21.04) | A 23.33 (36.6-10.0) 26.67(20.18) | Z =-3.42 p< 0.001** |
| Situational Model | A 30.30 (44.5-16.6) 31.61(18.31) | A 20.00 (36.8-10.0) 24.97(18.40) | Z=-3.68 p< 0.001** |

| | | | |
|-----------------------------|----------------------------------|----------------------------------|---------------------|
| General Management | A | A | Z=-2.03 p=0.04 |
| | 19.50(39.6-10.0) 25.25(21.19) | 11.00(30.0-8.5) 20.31(19.04) | |
| Use of medication | I | I | Z=-0.43 p=0.66 |
| | 40.00(57.0-33.3) 44.70(20.44) | 40.00(53.3-27.0) 41.45(20.67) | |
| Use of restraint | A | A | Z=-2.05 p=0.04 |
| | 31.50(50.0-15.7) 35.23(21.82) | 25.00(43.0-9.5) 27.36(23.39) | |
| Use of seclusion | I | I | Z=-.55 p=0.58 |
| | 46.67(53.3-27.0) 44.72(16.35) | 50.00(60.0-36.6) 47.52(15.96) | |
| Use of non-physical methods | I | A | Z=-2.69 p=0.007* |
| | 45.83(56.8-34.8) 45.24(15.72) | 37.75(50.0-30.0) 39.81(14.32) | |

Note. * p < .01; ** p < .001; Agree (A) = Mean 0–40 mm; Indecisive(I)= Mean 41–60 mm; Disagree (D)= Mean 61–100mm.

Table 6.
Details of External causation model

| Item | External | | Wilcoxon |
|--|--|---|-----------------------|
| | Pre-test Median (75th– 25th percentile) Pooled mean (SD) | Post-test Median (75th– 25th percentile) Pooled mean (SD) | |
| 1. Patients are aggressive because of the environment they are in. | A | A | Z=-4.46 p< 0.001** |
| | 31.50(50.0-10.0) 37.27(28.79) | 10.00(23.0-10.0) 19.87(23.38) | |
| 16. Restrictive environments can contribute towards aggression. | A | A | Z=-2.09 p=0.03 |
| | 21.00(54.0-10.0) 35.41(30.66) | 10.00(41.0-8.0) 26.55(27.72) | |
| 27. If the physical environment were different, patients would be less aggressive. | I | A | Z=-3.98 p< 0.001** |
| | 50.00(78.2-20.0) 50.01(30.80) | 27.00(50.0-10.0) 33.29(28.34) | |

Note. * p < .01; ** p < .001; Agree (A) = Mean 0–40 mm; Indecisive(I)= Mean 41–60 mm; Disagree (D)= Mean 61–100mm.

Table 7.
Details of situational causation model

| Item | Pre-test | Post-test |
|------|----------|-----------|
|------|----------|-----------|

| | Median (75th–25th percentile) Mean (SD) | Median (75th–25th percentile) Mean (SD) | Wilcoxon |
|--|--|--|---------------------|
| 2. Other people make patients aggressive or violent. | A 20.00(50.0-10.0) 30.78(29.9) | A 10.00(29.0-6.0) 19.7(21.9) | Z=-3.40 p=0.001* |
| 3. Patients commonly become aggressive because staff do not listen to them | I 50.00(80.0-10.0) 47.83 (32.2) | A 30.00(70.0-10.0) 40.20(33.2) | Z=-2.17 p=0.03 |
| 6. Poor communication between staff and patients leads to patient aggression | A 20.00(50.0-9.5) 29.17(27.8) | A 10.00(26.0-5.0) 19.78(24.9) | Z=-2.43 p=0.005* |
| 20. Improved one to one relationships between staff and patients can reduce the incidence of patient aggression. | A 10.00(30.0-6.25) 20.14(23.1) | A 10.00(20.0-5.0) 18.32(23.4) | Z= -1.03 p= 0.30 |

Note. * p < .01; ** p < .001; Agree (A) = Mean 0–40 mm; Indecisive(I)= Mean 41–60 mm; Disagree (D)= Mean 61–100mm.

Table 8
Details of Non-physical management

| MAVAS: Management: Non-physical | | | |
|---|--|---|--------------------|
| Item | Pre-test Median (75th–25th percentile) Mean (SD) | Post-test Median (75th–25th percentile) Mean (SD) | Wilcoxon |
| 15. The use of negotiation could be used more effectively when managing aggression and violence. | A 33.00(64.0-10.0) 38.85(31.81) | A 20.00(50.0-10.0) 32.74(30.96) | Z=-1.91 p=0.01* |
| 17. Expressions of anger do not always require staff intervention. | D 83.00(92.0-50.0) 71.39(28.55) | D 80.00(93.5-50.0) 72.78(27.70) | Z=-0.68 p=0.49 |
| 19. Alternatives to the use of containment and sedation to manage patient violence could be used more frequently. | A 40.00(50.0-10.0) 37.41(28.96) | A 24.50(70.0-10.0) 37.79(33.28) | Z=-0.33 p=0.73 |

26. The use of de-escalation is successful in preventing violence.

| | | |
|------------------|-----------------|-----------|
| A | A | Z=-4.77 |
| 29.00(50.0-10.0) | 10.00(20.0-5.0) | |
| 33.26(28.22) | 16.15(21.00) | p<0.001** |

Note. * p < .01; ** p < .001; Agree (A) = Mean 0–40 mm; Indecisive(I)= Mean 41–60 mm; Disagree (D)= Mean 61–100mm.

Table 9
Details of individual statistically significant items

| Item | Pre-test | Post-test | Wilcoxon |
|---|--|--|----------------------|
| | Median (75th–25th percentile) Mean (SD) | Median (75th–25th percentile) Mean (SD) | |
| 4. It is difficult to prevent patients from becoming aggressive. (Internal model) | D 70.00(90.0-30.0) 58.4(34.8) | D 82.00(90.0-50.0) 68.8(30.4) | Z= -3.01 p=0.003* |
| 22. Prescribed medication can sometimes lead to aggression. (Management: Use of medication) | I 51.00(90.0-30.0) 57.20(30.4) | A 35.50(72.50-10.0) 41.60(33.9) | Z=-3.19 p=0.001** |

Note. * p < .01; ** p < .001; Agree (A) = Mean 0–40 mm; Indecisive(I)= Mean 41–60 mm; Disagree (D)= Mean 61–100mm.

Table 10
Conceptual themes and subthemes*

| Theme | Subthemes |
|---|---------------|
| Beliefs about causative factors of aggression | Internal |
| | External |
| | Relational |
| Management of aggression | Traditional |
| | Interpersonal |

*Based on MAVAS constructs (Duxbury, 2002)

