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Athens Journal of Health and Medical Sciences

(ATINER)

Volume 6, Issue 4, December 2019

Articles

ATHENS INSTITUTE FOR EDUCATION AND RESEARCH
A World Association of Academics and Researchers
8 Valaoritou Str., Kolonaki, 10671 Athens, Greece.
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The Athens Journal of Health and Medical Sciences
ISSN NUMBER: 2241-8229 - DOI: 10.30958/ajh
Volume 6, Issue 4, Decemberber 2019

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Before you submit, please make sure your paper meets some basic academic standards, which include proper English. Some articles will be selected from the numerous papers that have been presented at the various annual international academic conferences organized by the different divisions and units of the Athens Institute for Education and Research.

The plethora of papers presented every year will enable the editorial board of each journal to select the best ones, and in so doing, to produce a quality academic journal. In addition to papers presented, ATINER encourages the independent submission of papers to be evaluated for publication.

The current issue of the Athens Journal of Health and Medical Sciences (AJH) is the fourth issue of the sixth volume (2019). The reader will notice some changes compared with the previous volumes, which I hope is an improvement.

Gregory T. Papanikos, President
Athens Institute for Education and Research

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A World Association of Academics and Researchers

19th Annual International Conference on Health Economics, Management & Policy,
22-25 June 2020, Athens, Greece

The Health Economics & Management Unit of ATINER will hold its **19th Annual International Conference on Health Economics, Management & Policy, 22-25 June 2020, Athens, Greece** sponsored by the Athens Journal of Health and Medical Sciences. The aim of the conference is to bring together academics, researchers and professionals in health economics, management and policy. You may participate as stream leader, presenter of one paper, chair of a session or observer. Please submit a proposal using the form available (https://www.atiner.gr/2020/FORM-HEA.doc).

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- **Dr. Paul Contoyannis**, Head, Health Economics & Management Unit, ATINER & Associate Professor, McMaster University, Canada.
- **Dr. Vickie Hughes**, Director, Health & Medical Sciences Division, ATINER & Assistant Professor, School of Nursing, Johns Hopkins University, USA.

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- Abstract Submission: **24 February 2019**
- Acceptance of Abstract: 4 Weeks after Submission
- Submission of Paper: **25 May 2020**

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- Exploration of the Aegean Islands
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Athens Institute for Education and Research

A World Association of Academics and Researchers

8th Annual International Conference on Health & Medical Sciences
4-7 May 2020, Athens, Greece

The Medicine Unit of ATINER is organizing its **8th Annual International Conference on Health & Medical Sciences, 4-7 May 2020, Athens, Greece** sponsored by the Athens Journal of Health and Medical Sciences. The aim of the conference is to bring together academics and researchers from all areas of health sciences, medical sciences and related disciplines. You may participate as stream leader, presenter of one paper, chair a session or observer. Please submit a proposal using the form available (https://www.atiner.gr/2019/FORM-HSC.doc).

Important Dates

- Abstract Submission: **6 January 2020**
- Acceptance of Abstract: 4 Weeks after Submission
- Submission of Paper: **6 April 2020**

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Athens Journal of Health and Medical Sciences *December 2019*

Increasing Psychosocial Health with Cognitive Therapy in Schizoid Personality Disorder: A Single Subject Design

By Pawel D. Mankiewicz[*] & Julia C. Renton[±]

Schizoid personality disorder (SPD) has been characterised by a persistent detachment from, and indifference to, interpersonal relationships, alongside restricted range of expressed emotions, and limited rewards gained from social interactions, resulting in limited levels of socially healthy behaviour. Although the applicability of evidence-based psychological treatments, including cognitive therapy (CT), has been indicated, there is a noticeable scarcity of relevant academic literature that might inform clinical practice in mental health clinics. This rigorous single subject design study attempts to address such apparent gap in literature. Sixteen sessions of CT were undertaken with an individual diagnosed with SPD and comorbid mood disorder in a community-based mental healthcare setting. Formal standardised measurement, behaviour frequency sampling, and subjective data were utilised to systematically evaluate the outcomes, indicating a considerable improvement in psychosocial functioning. The paper highlights the pertinence of cognitive and behavioural strategies in helping schizoid individuals address their interpersonal difficulties, reduce emotional distress, acquire socially inclusive behaviour, and ultimately increase their psychosocial health, without the need for explicitly intervening with their underlying personality traits.

Keywords: *Behavioural change, Cognitive therapy, Psychosocial recovery, Schizoid personality disorder, Single subject design*

Introduction

The availability of robust clinical and research literature on the subject of schizoid personality disorder (SPD) has been scarce. It seems that relatively few recognised cases of individuals with such diagnoses are seen within clinical services. As explained by Renton and Mankiewicz (2015), the reason for this might be twofold. First, for such individuals seeking psychological therapy would not be concordant with their belief sets. Second, after presenting to mental health services, such clients are likely to be allocated to inappropriate clinical pathways, in which they may be either incorrectly diagnosed or discharged once they are seen as not meeting diagnostic criteria for psychosis.

The American Psychiatric Association (2013) necessitate, in their DSM-5 diagnostic criteria for SPD, a longitudinal presence of detachment from, and indifference to, interpersonal relationships accompanied by a limited range of expressed emotions in social situations, as primary diagnostic features. Little interest is expressed in, or reward gained from, interactions with other people. Individuals with SPD are not troubled by the absence of relationships, but may be

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distressed by pressures from significant others due to the absence of interpersonal engagement. Additionally, The World Health Organization (1992), in their ICD-10 criteria for SPD, reflected on a limited capacity to express positive and/or negative feelings toward others, excessive preoccupation with introspection, and insensitivity to prevailing social norms and conventions, as further key clinical indicators of such condition.

Renton and Mankiewicz (2015) highlighted additional distinct features of SPD, including pervasive patterns of detachment from relationships across all social contexts, withdrawn and solitary lifestyles, seeking little contact with others (from which virtually no satisfaction is gained), preference of solitary activities and occupations, marked restriction in display of affect, often lethargic and dysthymic mood in a generally moderately negative range, frequently slow and monotonic speech, rare changes in mood despite external events (with neither marked positive nor negative shifts), and limited interest in the development of close relationships of either sexual or platonic nature. Importantly, the authors argued that such symptomatology should be conceptualised on a continuum of experience, as should beliefs underlying and maintaining such presentation. Individuals might be considered as schizoid only when their personality traits become dysfunctional, significantly limiting a person's flexibility to make life adjustments and causing emotional distress.

This paper presents a single subject design study, which demonstrates how evidence-based cognitive and behavioural interventions might be utilised to help an individual with SPD overcome their interpersonal isolation, reduce emotional distress associated with collective exposure and, ultimately, increase their psychosocial health. Literature review is followed by a structured case presentation, description of methodology, systematic evaluation of outcomes, and discussion of the study's key implications for psychological medicine practitioners and researchers.

Literature Review

Literature indicates that individuals with SPD may fall into two distinct clinical subcategories, that is affect-constricted or seclusive, hence importance of differential diagnosis, particularly in relation to schizotypal and avoidant personalities (Triebwasser et al. 2012). Furthermore, the possibility of an experiential transition from SPD to psychosis, following an exposure to psychological crisis with insufficient coping abilities, was described by Perez-Alvarez (2003). Consequently, Renton and Mankiewicz (2015) highlighted the importance of, and summarised clinical considerations related to the process of, differential diagnosis, in order to exclude overlapping clinical clusters of psychosis, delusional disorder, complex mood disorders, autism, and avoidant, paranoid and schizotypal personality disorders.

Epidemiological studies report the prevalence of SPD in general population as ranging from 0.7 (Samuels et al. 2002) to 4.5% (Ekselius et al. 2001). However, empirical research often indicates a relatively low internal consistency of the diagnostic construct of SPD. For instance, SPD literature reviewed by Mittal et al. (2007) reported Cronbach alpha coefficients between 0.47 and 0.68, while other studies appear to have demonstrated insufficient sample size affecting statistical analyses (Farmer and Chapman 2002).

The importance of a comprehensive understanding of clinical presentations of SPD and effective psychological treatments for this condition also appears relevant within the context of prevention of risky and antisocial behaviour. A scoping review published recently by the Offender Health Research Network (2012) indicated that a high proportion of individuals coming into contact with the criminal justice system may present with a diagnosable personality disorder. The prevalence of SPD among convicted persons with a diagnosis of personality disorder was shown to approximate 11% (Coid 2002).

People with SPD appear to rarely come to the attention of mental health services, unless their behavioural and emotional detachment begins causing considerable distress to them or to their families (Fagin 2004). Even then, such individuals would seldom adopt an active interest in their psychosocial recovery, thus collaborative therapeutic relationship and functional therapeutic alliance seem less likely to develop (Adshead and Sarkar 2012). Such avoidance of psychological help might be seen as a barrier to the utilisation of empirically sound interventions among individuals with SPD. Furthermore, a considerable comorbidity between severe personality disorders, including schizotypal, and mood disorders, in particular depression (Stevenson et al. 2011), might further impair help seeking behaviour among individuals requiring psychotherapeutic support.

Although complex personality disorders have at times been regarded as untreatable (Davison 2002), some contrary evidence may also be found, particularly concerning the utilisation of cognitive behavioural therapy targeting emotional distress and unhelpful beliefs associated with such disorders (Bateman and Tyrer 2004). A randomised study conducted by Joyce et al. (2007) demonstrated that SPD had no adverse effect on treatment response to cognitive behavioural therapy (CBT) for depression, even though the effectiveness of interpersonal therapy appeared considerably decreased. Considering significant difficulties that might occur in the development of a functional and collaborative therapeutic relationship reflecting interpersonal and social components of SPD, such results appear encouraging.

The fundamental principle of CBT for complex personality disorders, as explained by Evershed (2011), is the formation of a functional therapeutic alliance. Such process would be initiated at the beginning of therapy and should focus on the development of mutual understanding of reported difficulties (formulation), eventually leading to the establishment of trust and collaboration. In the latest edition of *Cognitive Therapy of Personality Disorders* edited by Beck et al. (2015), a structured model of cognitive therapy (CT) for SPD was proposed (Renton and Mankiewicz 2015). The treatment course included the following treatment modules: first, eliciting trust within therapy by exploring ambivalence, respecting the client's autonomy and emotional boundaries, and remaining non-defensive; second, exploring the impact and accuracy of unhelpful beliefs about others in key interpersonal and social contexts, and working collaboratively to develop alternative, more balanced beliefs; and third, experimenting with adaptive social behaviours and skills to support the development of new, functional beliefs.

Method

This study employs a single subject clinical research design. The case study follows a robust intervention protocol and evaluates outcomes using standardised and validated psychological measurement, behaviour frequency sampling, and subjective reflections.

Case Presentation

The present single subject case study describes a structured and methodologically rigorous clinical implementation of CT treatment model for SPD and attempts to address the apparent scarcity of clinical literature on the subject of psychological interventions for individuals with schizoid personalities and associated emotional distress. Formal consent for case study to be written and utilised for educational and publishing purposes has been obtained from the service user. A pseudonym is used to protect the client's identity.

Presenting Complaints and Background History

Richard was a 40 year old man of white Caucasian origin, referred to a specialist community service for adults with complex mental health needs in one of the National Health Service Trusts, East of England, UK. Prior to the commencement of psychological treatment, a number of ongoing distressing symptoms were reported, including chronically low mood and dysphoria, pervasive melancholia and anhedonia, negative introspection, anxiety, a sense of interpersonal vulnerability experienced in social contexts, and prolonged social avoidance and disengagement.

Richard had completed an undergraduate degree in fine arts in his early 20's, yet soon presented to mental health services when he became increasingly concerned about his alcohol use, through which he attempted to manage his escalating mood difficulties. He was then diagnosed with depression and SPD in his mid-twenties and treated pharmacologically with antidepressants for numerous years. Richard described feeling low in mood for as long as he could recall and was unable to recount any happy times. He agreed with his diagnosis of SPD and described an overall lack of interest in the development and maintenance of any relationships of both platonic and intimate nature. Richard described having taken some comfort in the diagnosis of SPD, seeing it as normalising of his unique character and, while still low in his mood, he had disengaged from pharmacological treatments following the assignment of such diagnosis. At that point, he was able to stop drinking and has since maintained his abstinence from psychoactive substances.

Richard recalled witnessing frequent incidents of domestic violence in his childhood and adolescence, perpetrated toward his mother and siblings. He explained he did not attract aggressive behaviour from his father and attributed this to his quietness, shyness and interpersonal avoidance, being the only child who had withdrawn from domestic conflicts. As a result, he perceived his disengagement as a survival strategy which had served him well in his early years. Yet, despite his life-long avoidance of interpersonal interaction, Richard remembered being able to enjoy solitary activities (e.g. creative arts) and led a relatively functional life in the past (e.g. while working as a painter and sculptor).

However, in the recent years Richard had noticed his mood becoming gradually lower as he had become increasingly more preoccupied with negative introspection, eventually disengaging from activities which had previously been rewarding. The current contact with mental health services had been precipitated by the declining health of his parents and growing pressure to co-ordinate the provision of their health care. This had greatly increased his anxiety and he reported feeling unable to cope.

Assessment and Evaluation Methodology

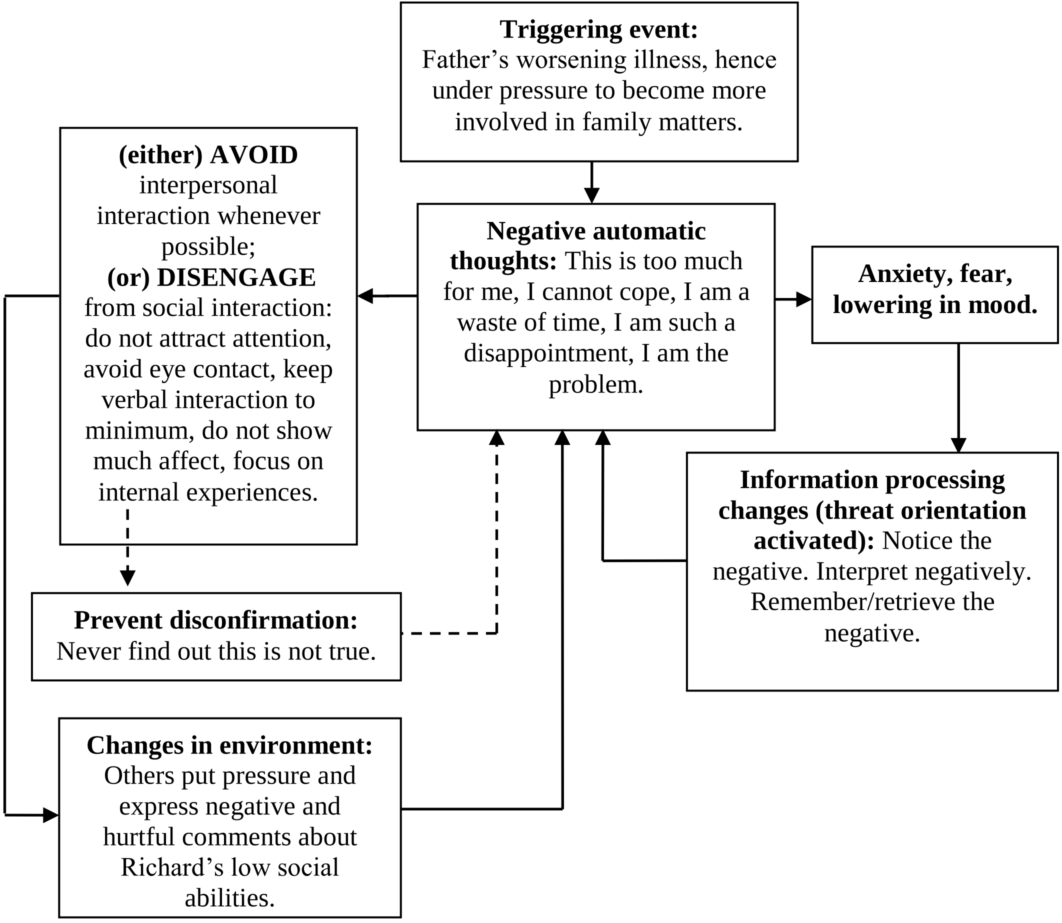
To formally assess Richard's symptomatic presentation and evaluate the intervention outcomes, a self-report questionnaire, Brief Symptom Inventory (BSI), was administered with the client. The BSI reflects symptom patterns among people with mental ill-health and is scored on nine clinical subscales (Derogatis and Melisaratos 1983). The measure has been standardised and validated on large normative samples in the United States (Derogatis and Melisaratos 1983), in the United Kingdom (Francis et al. 1990, Ryan 2007), and internationally (Kerimova and Osmanli 2016, Pereda et al. 2007), and was shown to demonstrate sufficient psychometric properties. Internal consistency was established using Cronbach alpha coefficients for all nine dimensions, which ranged from 0.71 to 0.85, while test-retest reliability coefficients were estimated between 0.68 and 0.91 (Derogatis 1993). Internal structure and construct validity was found to be sufficient: orthogonal varimax loadings determined from principal components analysis ranged from 0.35 to 0.71. Convergent and discriminant validity was examined through comparison with the *Minnesota Multiphasic Personality Inventory*; correlation coefficients scoped from 0.31 to 0.72 (Derogatis 1993). The BSI has also been reliably utilised to measure psychological distress associated with serious physical illnesses (Ruz et al. 2010).

For the purpose of Richard's assessment, the BSI subscales of depression (DEP) and anxiety (ANX) were administered to reflect emotional concerns voiced in assessment. Richard's pre-intervention DEP score was 3.00 while his ANX score was 2.83, both increased by approximately one standard deviation above the UK outpatient mean, indicating elevated levels of emotional distress on both subscales. Furthermore, to formally measure Richard's experiences of interpersonal vulnerability, the BSI subscale of interpersonal sensitivity (I-S) was also administered, resulting in pre-intervention score of 3.25, which exceeded the UK outpatient mean by one standard deviation.

Case Conceptualization

As presented in Figure 1, the cognitive model of SPD with associated emotional distress and safety behaviour (Renton and Mankiewicz 2015) was utilised to formulate Richard's experiences of emotional and interpersonal difficulties.

Figure 1. *Diagrammatic Case Formulation (Renton & Mankiewicz 2015)*



A considerable link between adverse childhood experiences and the development of personality disorders has been demonstrated in a longitudinal study conducted by Johnson et al. (2000). As explained by Renton and Mankiewicz (2015), individuals with SPD may often recall early experiences of being perceived as different from their family, or in some way less able than others. As a result, they may internalise a view of themselves as negatively different (core beliefs about self), perceive others as unkind and unhelpful (core beliefs about others), and appraise social interaction as difficult and damaging (core beliefs about the world). Consequently, a set of intermediate assumptions may be formed leading to the utilisation of unhelpful safety behaviours, maintaining a socially disengaged lifestyle.

In Richard's case, his early experiences of witnessing domestic violence had been coped with through a gradually more pronounced social disengagement, interpersonal withdrawal, and lack of emotional expression, which in time have become somewhat pervasive in his presentation ("*I was always quiet, shy and withdrawn, really well-behaved and did not draw attention to myself*"). Although perceived as an effective survival strategy, such withdrawal often attracted personally negative comments from significant others (who would suggest that he was "weak", "weird", "had no guts" and were letting them all down), which with time became internalised and formed a set of core beliefs about self ("*I'm such a disappointment, I'm a waste of time*"). These were reflected in situation-specific negative automatic thoughts, resulting in emotional distress and activating habitual safety behaviour (avoidance and disengagement). Such responses were in turn maintained by threat-focused information processing changes, prevention of disconfirmation of unhelpful cognitions, and unsupportive environmental reactions (further negative comments).

Course of Treatment

In total, 16 sessions of cognitive behavioural treatment were undertaken with Richard, initially weekly, then fortnightly, and were facilitated in an outpatient mental health clinic by an experienced clinical psychologist with an expertise in cognitive behavioural psychotherapy. The intervention plan was based on CT for SPD treatment model (Renton and Mankiewicz 2015), hence incorporated three subsequent core intervention modules: addressing ambivalence and establishing therapy goals, cognitive restructuring of unhelpful beliefs, and behavioural experiments addressing social interaction.

Addressing ambivalence and establishing goals

The initial treatment module began with exploring Richard's ambivalence about participating in therapy and eliciting working alliance (session 1). This process was entirely embedded in Socratic dialogue (Padesky 1993), thus allowing the client explore his own perception of advantages and disadvantages of engaging in the process of change, all while supporting the client's individuality. Although Richard initially communicated his pessimism about own recovery, he eventually reflected on his need to return to a considerably more functional life and expressed his understanding that therapy might initiate the process of gradual change or (more realistically for Richard at the time) would be unlikely at least to cause an increase in his distress.

The treatment then progressed toward establishing a list of personally meaningful and psychosocial recovery oriented goals (sessions 2-3). Difficulties in negotiating a collaborative problem and goal list with a schizoid client might commonly occur, as such it is important to elucidate what particular elements of their experience are subjectively problematic to the client; this may often differ markedly from what the therapist expects the area of concern to be for those with such presentation (Renton and Mankiewicz 2015). In Richard's opinion his social indifference was not pertinent to his own wellbeing, but rather his disengagement from previously rewarding activities had eventually led to the lowering in his mood and (along with the expectations of co-ordinating the provision of family healthcare) had exacerbated his interpersonal anxiety. Hence, the following intervention goals were agreed on: learning to disengage from self-defeating introspection and unhelpful cognitions about self, restoring engagement with personally rewarding activities, and planning for (and coping with) task-oriented interaction with others.

Cognitive restructuring of unhelpful beliefs

This treatment module focused on exploring the impact and accuracy of unhelpful beliefs in key interpersonal and social contexts, and working collaboratively to develop more balanced and self-compassionate appraisals of own functioning (sessions 4-10). Interventions included guided discovery, evidential analysis, generation of alternative explanations, and utilisation of functional self-statements and self-affirmations.

Richard was unable to find evidence supporting his anxiety-inducing beliefs about engaging in necessary task-focussed interactions with others ("*This is too much for me, I cannot cope*"). Contrary to such unhelpful preditions, Richard reflected on numerous experiences of engaging in tasks requiring interpersonal interaction and, despite anxiety, recalled coping well and achieving desired outcomes. Following the instillation of the initial doubt in self-defeating beliefs (which appeared important in achieving the metacognitive shift in lowering the certainty he held about these), cognitive restructuring gradually proceeded toward the reattribution of negative beliefs about self. In this stage, Richard developed a more compassionate understanding of functional links between early life experiences, i.e. frequent exposure to negative and verbally abusive statements from significant others, and subsequent internalisation of such comments in the form of core beliefs about self. To counterbalance Richard’s unhelpful interpretations of his interpersonal competencies, (e.g. "*I can’t do it, I can’t cope*") he began implementing a range of compassionate self-statements, and practiced reframing his pre-existing appraisals with evidence-informed self-affirmations (e.g. "*Not everyone takes pleasure in interpersonal activities but I have shown that I can achieve my goals even when I need to interact with others*").

Behavioural experiments addressing social interaction

As cognitive restructuring module resulted in a considerable progress in Richard’s psychosocial recovery, the treatment subsequently progressed toward the utilisation of behavioural intervention (sessions 11-16). This behaviourally oriented module involved active and systematically planned experimentation with adaptive social behaviours (those that were useful and task-oriented) to further support the development of helpful beliefs. As any socially oriented task is likely to trigger anxiety and further interpersonal avoidance among individuals with SPD (Renton and Mankiewicz 2015), this series of experiments was employed as a sequence of collaboratively pre-arranged graded exposure tasks.

Alongside this, behavioural activation focused on enabling Richard to re-engage with a range of subjectively rewarding activities (e.g. creative arts, gardening, reading biographies), thus facilitating re-introduction of experiences of enjoyment. Simultaneously, behavioural experiments were planned and implemented gradually to ensure brief exposure to interpersonal tasks with clearly defined and achievable goals (e.g. attending a medical appointment with a family member, visiting local library and gallery, supporting family in house chores). The underlying assumption of the protective importance of avoidance and withdrawal from interpersonal contact was reframed in small subsequent stages, eventually resulting in Richard’s consideration of an alternative appraisal ("*Although I find interacting with others rather difficult, I can still do it and achieve some desirable outcomes*").

Gradually, Richard’s conviction in the accuracy of tested assumptions reduced, leading to relaxation of safety behaviours. Importantly, Richard reported that his re-engagement with personally rewarding activities improved his overall life satisfaction, while regular involvement in structured interpersonal tasks distracted his negative introspection and helped him dispute his self-defeating beliefs. Richard expressed being able to "*do the things I need to without worrying endlessly*".

Evaluation of Outcomes

Table 1. *Subjective pre- and post-Intervention Reflections on Presenting Difficulties*

	Pre-intervention Quotes	**Post-intervention Quotes**
Interpersonal Interaction	This is too much for me, I cannot cope with it. I just need to keep myself inconspicuous; it’s my recipe for my own silent existence.	Although I find interacting with others rather difficult, I can still do it and achieve some desirable outcomes. I understand I have to engage in social interaction in order for my perceptions to change. I don’t feel I need to run from every conversation anymore. I have a capacity to experience these brief feelings of overcoming the limitations of my own self-restraint.
Subjectively Rewarding Activities	I feel utterly unable to return to all those very few things I used to enjoy in my life.	I cannot be dismissive about basic things that are so necessary in my life. I recognise that finding courage to do it will give me positive feedback about myself and I will eventually feel better. I’ve realised I had an ability to break up of being passive and take an active initiative in managing my own wellbeing.
Self-Defeating Introspection	I always find myself in the middle of this perpetual negative intellectual analysis of my own functioning and life circumstances. It’s relentless.	I’m not harming myself mentally anymore, I’m not being so unnecessarily critical. I feel like I’m able to gain some distance toward my own negativity. It’s not that intimidating anymore, it's not that overwhelming.
Mood	I feel resistant to the idea of change as nothing has ever really worked for me. I just need to accept the fact that I don’t experience pleasure in my life to the extent that other people do. I’m just naturally a very sad human being I guess.	I recognise I’m feeling generally better, more in connection with life and the world. I have a more tangible and clearer vision of life and I acknowledge that it is my decision of what to expect of each day. I have more optimism about things working out now. I don’t remember having it before. Good things might happen.

As comparatively encapsulated in Table 1, at the end of therapy Richard reported a range of subjectively substantial improvements in his psychosocial functioning.

Furthermore, as illustrated in the comparative pre- and post-intervention behavioural frequency samples (Table 2), objective improvements in Richard’s abilities to cope, that is achieving a substantial relaxation of his safety behaviours and increasing engagement with personally rewarding and individually meaningful activities, were achieved as well.

Table 2. *Self-reported Frequency of Safety Behaviour and Subjectively Rewarding Activities*

	Pre-Intervention	**Post-Intervention**
Interpersonal Disengagement	Continuous disengagement	Daily task-oriented interaction with family members (e.g. house chores and leisure activities) and others (e.g. discussions about arts and literature)
Social Avoidance	Continuous avoidance of social interaction	Weekly lunch in a cafe with "old acquaintances" and regular pursuit of socially inclusive activities (e.g. cycling groups)
No Eye-Contact, Keep Head Down	Persistent in all interpersonal interactions	Initiates and maintains eye contact regularly in verbal interpersonal interactions
Focus on Internal Experiences	Daily, perceived as negative, perpetual, and relentless	Daily, yet perceived as intermittent, manageable, distractible, and increasingly affirmative
Creative Arts, Painting, Sculpturing	Last attempted approx. one year ago	Daily, with an ultimate goal to return to an arts and crafts profession
Reading Biographical Literature	Approx. once a month	Daily, in the evening
Gardening	Monthly	Three times a week

Finally, as presented in Table 3, the post-treatment standardised measurement confirmed the considerable reduction in both depression and anxiety levels, and demonstrated a marked improvement in the levels of interpersonal sensitivity. All post-intervention outcome scores fell within approximately one standard deviation range below the UK outpatient mean.

Table 3. *Standardised Measurement: BSI pre-Treatment (Assessment) and Post-Treatment (Outcome Evaluation) Scores*

BSI scale	UK outpatient mean/SD	Pre-treatment score	Post-treatment score
DEP	M=1.99/SD=1.10*	3.00	1.33
ANX	M=1.87/SD=1.03*	2.83	1.17
I-S	M=2.08/SD=1.22*	3.25	1.25

(*) As reported by Ryan (2007).

Follow-up

While evaluating the effectiveness of psychotherapeutic interventions, it appears helpful to adopt a quasi-experimental A-B-A design (Backman and Harris 1999), in which the effects of completed psychological treatment would be re-evaluated by a follow-up administration of all outcome measures. Although the A-B design has been broadly accepted as a sufficient methodology for conducting clinical case studies (Backman et al. 1997), allowing sufficient time to elapse following the withdrawal of therapeutic support would permit a more methodical evaluation of long-term effects of such treatment.

At the time of closing the case, Richard reported considerable progress in his overall functioning and a significant reduction in his clinical symptoms, as reflected in Tables 1-3. Six months after formally completing the intervention, a telephone booster session was arranged to monitor Richard’s ongoing progress in his psychosocial recovery. He reflected on the continuing utilisation of cognitive and behavioural coping strategies he had developed in his therapy. Richard described his mood as stable and rather positive, and reported a continuous absence of experiences of depression or intense anxiety. He maintained his regular engagement in subjectively rewarding activities and was undertaking steps toward returning to formal employment. Although Richard stated he was still experiencing a level of discomfort in social contexts, the sense of interpersonal vulnerability appears to have been replaced with gradual recognition of own distinct personality and growing acceptance of own solitary preferences.

Access to Healthcare

In the initial sessions of his therapy Richard reflected on his pre-existing beliefs about the undesirable and adverse aspects of social exposure, often resulting in the avoidance of, and disengagement from, any form of meaningful interpersonal interaction. Since the multidisciplinary mental health care had been readily available to Richard for numerous years prior to the commencement of the current psychological treatment, such prolonged social avoidance was conceptuallised as an internally generated barrier to seeking and accessing psychological help, and was then systematically addressed with cognitive and behavioural interventions throughout the course of his therapy.

The therapist often accentuated Richard’s resilience in persisting with the treatment, although such engagement had not been perceived as corresponding with his pre-existing belief set, thus might have triggered considerable levels of ambiguity and discomfort. Despite such difficulties, typical for individuals with schizoid personality, Richard was able to develop a trusting therapeutic relationship and recognise the importance of receiving psychological care, which he expressed his gratitude for. He also stated he would not hesitate to reach out and seek further help in the future, should he become concerned about his emotional wellbeing again.

As an integral part of the multidisciplinary care package, Richard was offered psychiatric support. In his initial appointment with the team psychiatrist, Richard described his previous experience of discontinuing his pharmacological therapy with antidepressants, which had precipitated further deterioration in his mood. Richard was encouraged to consider recommencing such treatment to additionally address his chronically low mood, alongside the offered psychological therapy. However, as Richard expressed his considerable reservations regarding such pharmacological input, it was collaboratively agreed that his mental health would be regularly monitored by a psychiatric nurse, and another appointment with a psychiatrist would be scheduled, if CT proved insufficient as the sole therapeutic intervention.

Discussion

As explained by Renton and Mankiewicz (2015), individuals with SPD are often convinced that they are different, unlikable, and unable to fit within the wider community and social world, hence interpersonal interactions should be avoided. However, subjective rationales behind such interpersonal disengagement relate to a belief set, specific to SPD, often formed in the context of early life experiences. And these experiences, as established in literature reviewed by Martens (2010), appear to be characterised by the underlying theme of prolonged loneliness and social detachment.

The existing clinical literature appears to indicate that in individuals presenting with SPD, the creation of meaning might be an affect evoking experience, which would constitute a crucial stage in the process of change (Kramer and Meystre 2010). Thus, as demonstrated in the present article, the development of a mutual and compassionate understanding of underlying difficulties, establishment of a collaborative working alliance, and agreement on individually meaningful therapy goals, appear paramount for successful implementation of cognitive and behavioural interventions. This needs to be embedded in a functional therapeutic relationship and mutually shared narrative that support the client’s individuality and respects their personality.

Further contribution the present case study attempts to make to the scarce literature on the subject of SPD, is to demonstrate that a clinically skilful implementation of cognitive behavioural intervention with schizoid individuals may lead to a considerable therapeutic change allowing an overall increase in reported quality of life and subjective satisfaction. Such improvements in psychosocial functioning would be achieved through a methodical implementation of cognitive restructuring of distressing appraisals of contextual circumstances and graded behavioural exposure to the previously avoided stimuli. Eventually, both cognitive and behavioural strategies, would result in the development of more compassionate understanding of own difficulties, considerable lowering in emotional distress, gradual improvements in coping with interpersonal interactions, and reinstatement of individually rewarding activities.

Such findings appear relevant in the context of current literature on the subject of psychological treatments of severe personality disorders, in which the development of self-reflective abilities in the supportive interpersonal environment of therapeutic relationship is perceived as having important clinical merit (Haliburn et al. 2018). In the current case, such functional level of self-reflection was achieved through an empathetic, collaborative and mutually respectful development of shared conceptualisation, and subsequently acted as a central intellectual precursor of a gradual cognitive and behavioural change, without the need to explicitly alter the individual's schizoid constitution.

Based on the case reported above, it seems plausible to conclude that cognitive understanding of SPD may offer a destigmatising, coherent and compassionate conceptualisation of emotional distress, behavioural disparity, and interpersonal indifference. Given the contextual narrative in western societies about interpersonal relationships being indispensable in all aspects of success, this novel conceptualisation of schizoid individuals may represent a unique opportunity for finding value in their own lives.

As the current knowledge related to psychological treatments of SPD appears somewhat underrepresented in the clinical and academic literature, it seems pertinent for clinicians and trainee therapists to remember that in SPD, based on a mutual understanding of the problematic aspects of individual functioning, an effective, person-centred and theory-led cognitive behavioural intervention can be delivered, and a gradual progress in one's psychosocial functioning might be achieved. Importantly, such progress can be accomplished without the need for addressing the underlying traits specific to schizoid personality. On the contrary, the individual reported in the present case study perceived the diagnosis of SPD as rather helpful and normalising.

Such experience of mental health diagnosis does not seem particularly uncommon in the context of a recent systematic review of qualitative literature on this subject, which highlights the importance of collaboration between individuals and services, establishment of helpful therapeutic rapport, timing and subjectively perceived accuracy of diagnosis, provision of relevant information, and subsequent focus on individual psychosocial recovery (Perkins et al. 2018).

Limitations and Future Research

As the current article reports a preliminary single subject evaluative implementation of CT for SPD, although our results seem clearly encouraging, ideally, further research should include larger-scale empirical studies of controlled nature, targeting a range of clinical presentations with different levels of social disengagement and interpersonal avoidance. Such studies would be essential in providing further systematic and generalised indications for clinical practice in SPD. However, as recruitment of schizoid individuals might prove difficult due to the typical personality traits affecting their interpersonal engagement, publication of further methodologically rigorous single subject design studies appears indispensable in the development of effective treatment models, hence should be encouraged.

It seems important to note that the reported intervention was undertaken with a relatively well functioning male adult of Caucasian origin, achieving a gradual progress in his psychosocial recovery, willing to engage in the process of therapeutic change, with no prior forensic history. Hence, a possible sample selectivity bias should be acknowledged. In order to accurately reflect the clinical reality of specialist services for individuals with complex personality disorders in diverse metropolitan communities, future studies would ideally need to include participants with chronic difficulties, representing different ethnic and cultural backgrounds. A greater understanding of effective cognitive interventions in complex schizoid presentations would likely equip clinicians working in the aforementioned specialism with further important therapeutic competencies, which would likely contribute to the enhancement of their clients' psychosocial recovery.

Conclusion

The paper demonstrates the applicability of cognitive and behavioural interventions in increasing psychosocial health of individuals diagnosed with SPD, whose interpersonal functioning would otherwise likely remain limited and restrict exposure to opportunities for achieving a gradual progress in their psychosocial recovery. The article reflects on the implications of the current study for psychological medicine practitioners working within the environment of community mental health settings.

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Association between Emergency Department Visits and Predisposing, Enabling, Need, and Reinforcing Social Factors in an Acute Care

By Omar B. Da'ar[*], Khalid Alahmary[†] & Majid Alsalamah[‡]

No primary evidence has hitherto existed of predisposing, enabling, need, and social reinforcing factors influencing Emergency Department (ED) visits in an acute setting in Saudi Arabia. The aim of this study was to examine the association between emergency department visits and predisposing, enabling, need, and reinforcing social factors in an acute care. A cross-sectional study that randomly selected representative patients visiting ED services at King Abdulaziz Medical City in Riyadh from December 2016 to January 2017. Patient and facility validated questionnaires were used. Descriptive analysis and multivariate analysis were carried using STATA version 12. Average ED visit was 3.8 in 12 months with a range of 50 visits. Visits were concentrated on a few small discrete and non-negative integer values, but without an explicit upper limit. Perceived "good" health (P=0.026; 95% CI, 0.1334, 2.0547), "very good" health (P=0.006; 95% CI, 0.4288, 2.5432), and "excellent" health status (P=0.007; 95% CI, 0.5532, 3.5230) were associated with ED visits increasing by 9.4%, 48.6%, and 103%, respectively. Prior hospitalization was associated with 2.7 times higher ED visits. Household income more than $800 was associated with ED visits decreasing by between 49% to 70%. Getting useful advice on social matters was associated with 27% increase in ED visits, getting help when sick was associated with 9.4% decrease in ED visits. The findings suggest majority of the respondents were Saudis, with history of hospitalization, low income, less educated, perceived their health status as good, and considered their medical condition at the time of ED visit as not urgent. Future studies are needed to establish causality of ED visits the covariates to inform the balance between frequencies of visits versus medical need.

Keywords: *Count Data Models, Emergency department utilization, Emergency department visits, Saudi Arabia, Social factors*

Introduction

Maturation of emergency medicine as a specialty from hospital-based medicine has coincided with dramatic increases in emergency department (ED) visits (Pines et al. 2011a, Rehmani 2004, Morganti et al. 2013). The upshot of these increased visits is the utilization of ED services for complex diagnostic workups and handling overflow, after-hours, and weekend demand for care, accounting for significant hospital admissions (Morganti et al. 2013). Studies show that utilizing ED services for primary care-related (PCR) reasons fuels

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overcrowding (Dawoud et al. 2016, Schoen et al. 2004, Hoot and Aronsky 2008, Weinick et al. 2010, Enard and Ganelin 2013). Many of these patients require instant medical attention, but their kinds of conditions are non-emergent outpatient care and potentially preventable or avoidable with appropriate primary care or timely options elsewhere (Morganti et al. 2013). Increased use of ED services has led to overcrowding, which has implications for facilities and healthcare systems in terms of negative outcomes such as healthcare staff burnout (Alomar et al. 2013), higher complication rates, mortality, and un-necessary delays (Pines et al. 2011a). In addition, ED overcrowding puts a huge financial and human resource burden on emergency care, delays the provision of urgent care for those who need most, and further increases the fragmentation and discontinuity of care (Howlader et al. 2015, Macinko et al. 2011).

The motivation for this study, therefore, comes from the recognition that utilization of ED services is a common practice in Saudi Arabia, with dramatic increases in public hospitals (Pines et al. 2011a, Bakarman and Njaifan 2014, Ministry of Health 2016, Ministry of Health 2013, Ministry of Health 2012). Available evidence suggests that despite the availability of free primary care, patients tend to bypass primary care facilities to seek ED services for non-urgent and avoidable conditions (Alsirafy et al. 2016, Alyasin and Douglas 2014, Al-Ghanim 2004, Alghanim and Alomar 2015, Rehmani and Norain 2007, Siddiqui and Ogbeide 2002a, 2002b, Shah et al. 1996). With a universal coverage of healthcare in these facilities, an implicit assumption is the existence of a balance between demand for and provision of ED health services. In the context of Saudi Arabia, no primary evidence has hitherto existed on that balance, especially in an acute hospital setting. This study, therefore, examined the association between ED utilization in an acute setting and patient and facility characteristics that predisposed, enabled, and re-enforced the need to utilize ED services. These covariates, in our context, include patients' socioeconomic characteristics, demographic profiles, and their health and medical conditions; healthcare staff and/or facility characteristics; and social environment conditions; and patient self-efficacy issues.

Methods

Study Design

A cross-sectional study that both prospectively and retrospectively targeted patients who sought ED services at King Abdulaziz Medical City-King Fahad hospital in Riyadh (KAMC-KF) from December 2016 to January 2017. This was aimed at the frequency of ED utilization in an acute setting and its association with patients and facility-related predisposing, enabling, need, and re-enforcing factors, including social environment conditions; and patient self-efficacy issues that influenced the need to utilize ED services.

Sampling

We first calculated the sampling interval by dividing the total number of ED visitors in a month by the targeted number of visitors in 24 hours. From the first patient arriving at ED during a shift (2 shifts), we selected the next patient by using this sampling as an interval for all visitors in each shift. This yielded the required final sampling number of 440 patients. With a sample of 440 patients, data were collected from December 2016 to January 2017. Of the 440 sampled and invited patients who visited ED, 381 accepted to participate. Of these patients, 366 completed the questionnaires, an overall effective response rate of 83%. A systematic random sampling technique was employed to recruit subjects where a pre-specified interval determined the recruited subjects. We used the registration station at the ED as the point of contact with incoming patients. With the help of trained research assistants, receptionists were notified to keep track of potential participants. Once a subject was selected, research assistants invited the patient to complete the survey and explain the purpose and the informed consent verbally as well as in writing. Relatives or friends who accompanied patients with life-threatening conditions were approached to complete questionnaires. Visiting ED regardless of whether admitted with clear-cut signs i.e. the clinical emergency need was the main inclusion criterion for patients. Physicians and nurses of the emergency department were included to help in the facility questionnaire.

Setting of the Study

The study was conducted at the Emergency Department, one of the largest sections of the National Guard Health Affairs (NGHA) Hospital in Riyadh. The hospital is a tertiary referral and teaching hospital and a member of the Joint Commission of International Standards (JCI). The hospital has a bed capacity of well over 690 and mainly serves the Saudi National Guard (SANG) employees and their dependents. Most attendees of the hospital are eligible for most services although there are out-of-pocket patients. The hospital’s proximity to the capital city and the variety of case-mix services at the outpatient, in-patient and ED services make it ideal for patients.

Instruments

With permission, a two-level validated questionnaire was used - a patient questionnaire and healthcare staff/facility survey. The questions were based on the Queensland University of Technology (QUT) Emergency Health Services study (Toloo et al. 2011).

English and Arabic languages translations and reverse translations of the patients’ questionnaire were carried out to check for consistency and validity. The translated version was necessary if any patient wanted to self-administer the questionnaire in the native language without the help of the trained research assistant. Trained research assistants who spoke both local and English languages interviewed patients.

We piloted the questionnaires and administered to a smaller convenient sample (10%) of the targeted sample population. There were no issues of data quality, validity, or comprehensiveness about the questionnaires and response rate was satisfactory. However, we did encounter issues of ambiguity and convolution of questions. Ambiguities of some questions were related to cross-cultural issues while convolution issues were related to time and length of the questionnaires and interview. We adjusted the concerned questions accordingly. We introduced a follow-up strategy by research assistants before patients were discharged to enhance the response rate.

Finally, trained research assistants administered a well-structured and cross-culturally comparable patient questionnaire to respondents. The patient questionnaire was administered prospectively to gather information about predisposing factors e.g. socioeconomic and demographic profiles, health beliefs and knowledge; facility characteristics e.g. service availability and staff training; enabling factors such as household income, transportation, social support, self-efficacy, reason for choosing ED, geographic proximity, family responsibilities, and affordability among other factors. Other factors included the number of chronic conditions, perceived need of patients such as health status, severity, susceptibility, and benefits, barriers among other variables. A second questionnaire was administered to physicians and nurse in the same facility to retrospectively gather information such as the history of hospitalization, number of ED visits in 12 months. Other factors retrospectively gathered included evaluated need e.g. triage acuity level, recall medical diagnosis, final decision such as admission, referral, and discharge. We linked each patient to his/her treating physician and nurse who, with help of medical records, then helped complete the healthcare staff/facility survey for each triaged patient after the medical diagnosis has been made.

The two-level survey involved patients being prospectively interviewed as they arrived at ED and retrospectively gathering patient medical records with the help of nurses and physicians. The purpose of the two-level survey had the following four purposes: (a) to capture the patients' use of ED from different perspectives; improving the validity and precision of the information gathered, capturing different dimensions and levels of factors influencing patients' use of ED services (b) retrospective to extract secondary data from medical records of the sampled patients (c) to cross-validate patient-reported information using the medical records (d) lower potential recall by patients about their medical conditions and ED use.

Data Analysis

Data were coded and analyzed in STATA version 12 for Windows. First, we descriptively summarized key variables of interest as summarized in Table 1. Then we examined the association between ED utilization and the patient-and facility-level factors, including predisposing, enabling, reinforcing, and need and social factors. We employed a *negative binomial regression*, a technique used for modeling count variables, especially for over-dispersed count outcome variables. The presence of over-dispersion in the mean value of the response variable (ED visit) when varied with the facility and patient-level factors necessitated the need for count data models such as negative binomial regression. Previous studies have applied these models to healthcare (Grootendorst 1995, Sari 2009).

Ethical Approval

We used a standard, validated and approved consent-to-participate form designed by the King Abdullah International Medical Research Centre (KAIMRC). The consent was in both English and Arabic, the main local language. The form was handed to patients or their guardian and/or caretaker. The consent was read out verbally and explained clearly for patients who needed help during the survey for reasons of language limitations of either language. Consent for underage or patients in critical clinical conditions were given by parents, guardians, or caretakers. The ethical approval in terms of Institutional Review Board (IRB) was granted by KAIMRC Research Committee (protocol RC15/131/R).

Results

Descriptive Statistics

Table 1 depicts the summary of descriptive statistics. The mean of the ED visits was 3.8 times a year with a standard deviation of 4.3. The minimum number of visits was one and the maximum was 50. The median visit was three, with an interquartile range (IQR=4). Of the ED visitors who responded, slightly more than half (51%) were female, 95% were Saudis, and 72% had less than high school education. Majority of the respondents (92%) were adults and seniors and 66% were married. One-fifth of the respondents hailed from a household of less than SAR 3,000 ($800) a month.

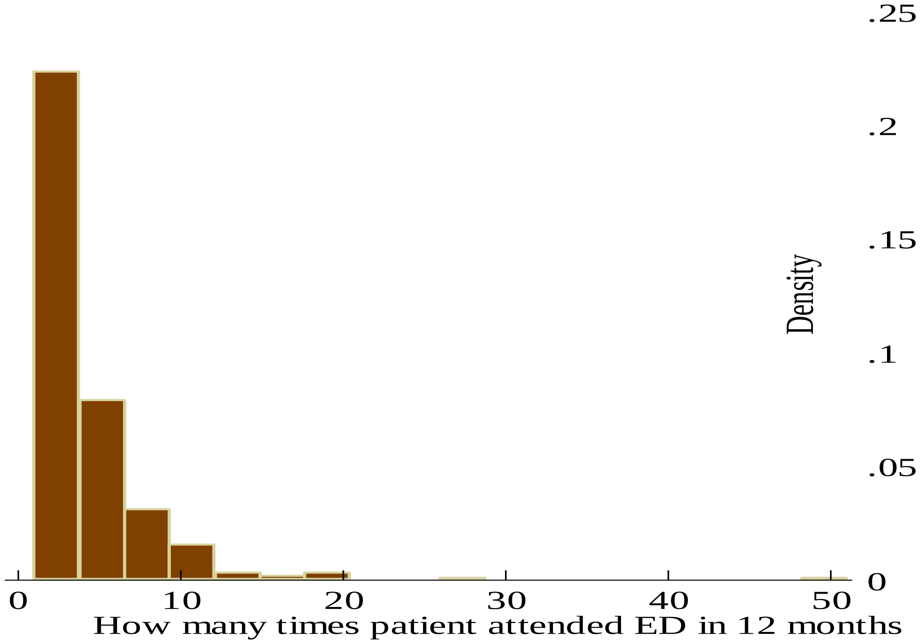
Nearly two-thirds (66%) perceived their health status as good, very good, and excellent, while 34% had a history of prior hospitalization, 64% considered their medical condition at the time of ED visit as not urgent. About 72% of the respondents reported having people and families to care and 76% get help when sick. Another 63% reported getting advice when they needed. However, while 16.67% of the patients were not confident that they could deal efficiently with unexpected events, 14.75% of the ED visitors cannot usually think of a solution when confronted with troubles.

Table 1. *Descriptive Statistics of Key Variables*

Characteristics	Level	N (%)	Characteristics	Level	N (%)
ED visits	Mean: SD=3.8, SD=4.3; Median=3, IQR=4		**Facility proximity**	No	96 (26.23)
Age	Mean: SD=50, SD=21.8			Yes	232 (63.39)
Perceived health status	1: Poor	45 (12.30)		Missing	38 (10.38)
	2: Fair	74 (20.22)	**Hospital open 24/7**	No	56 (15.30)
	3: Good	110 (30.05)		Yes	273 (74.59)
	4: Very good	94 (25.68)		Missing	37 (10.11)
	5: Excellent	36 (9.83)	**Hospital staff specialized**	No	59 (16.12)
	Missing	7 (1.91)		Yes	307 (83.88)
Age category	Child & Teen	31 (8.47)	**Insurance eligibility**	No	34 (9.29)
	Adult	231 (63.11)		Yes	332 (90.71)
	Seniors	104 (28.42)	**Income levels**	1: <3,000	75 (20.49)
Marital status	1: Married	242 (66.12)		2: 3,000-5,000	111 (30.33)
	2: Not married	62 (16.94)		3: 5,001-10,000	94 (25.68)
	3: Others	51 (13.93)		4: 10,001-15,000	29 (7.92)
	Missing	11 (3.01)		5: >15,000	28 (7.65)
Education levels	0: None	125 (34.15)		Missing	29 (7.92)
	1: Elementary	37 (10.11)	**Employment status**	1: Employed	82 (22.40)
	2: Intermediate	103 (28.14)		2: Not employed	37 (10.11)
	3: High school	39 (10.66)		3: Home-maker	117 (31.97)
	4: Tertiary	62 (16.94)		4: Retired	86 (23.50)
Gender	Female	185 (50.55)		5: Student	33 (9.02)
	Male	181 (49.45)		Missing	11 (3.01)
Residence	No	58 (15.85)	**Deal with unexpected events**	1: Not true at all	61 (16.67)
	Yes	301 (82.24)		2: Somewhat true	148 (40.44)
Nationality	No	15 (4.1)		3: Exactly true	134 (36.61)
	Yes	351 (95.9)		Missing	23 (6.28)
History of hospitalization	No	214 (58.47)	**Can think of solution**	1: Not true at all	54 (14.75)
	Yes	128 (34.97)		2: Somewhat true	153 (41.80)
	Missing	24 (6.56)		3: Exactly true	137 (37.43)
Condition urgent	No	237 (64.75)		Missing	22 (6.01)
	Yes	129 (35.25)	**Have people who care**	No	99 (27.05)
Facility	No	54 (14.75)		Yes	267 (72.95)
	Yes	281 (76.77)	**Get help when sick**	No	87 (23.77)
	Missing	31 (8.47)		Yes	279 (76.23)
			Get advice when need it	No	134 (36.61)
				Yes	232 (63.39)

The response variable of interest was how many times a patient attended ED in the past 12 months. The same information was confirmed by patients' medical records from healthcare staff/facility questionnaire. The mean visit was 3.8 in 12 months with a 4.3 standard deviation. The range was 50 visits. The distribution was somewhat expected, and the unconditional mean of the response variable was smaller than the variance. Figure 1 shows a right-skewed histogram of the ED visits. The number of times patients visited ED were concentrated on a few small discrete and non-negative integer values (0, 1, 2, 3, 4, etc.), but without an explicit upper limit.

Figure 1. *Histogram of the Number of ED Visits in 12 Months*



Further exploration of the data showed the conditional means and variances of some key indicators such as perceived health status and other variables appeared to potentially explain variation in ED visits. In particular, data showed that the mean value of ED visits seems to vary by various indicator variables and the variances within each level of the indicator variable are higher than the mean within each level, suggesting the presence of over-dispersion. As such, a negative binomial model provided an improved fit to the data and accounted better for over-dispersion (Byers et al. 2003).

Regression Results

Table 2 illustrates the results of the negative binomial regression. The results reveal that perceived "good" health status (P=0.026; 95% CI, 0.1334, 2.0547), "very good" health status (P=0.006; 95% CI, 0.4288, 2.5432), and "excellent" health status (P=0.007; 95% CI, 0.5532, 3.5230) were associated with ED visits increasing by 9.4%, 48.6%, and 103%, respectively. While these results are statistically significant, it is worth noting that there is a positively perceived health gradient with respect to increasing ED visits. In addition, results revealed that being adult was associated with 1.56 times higher ED visits (P=0.013; 95% CI, 0.3300, 2.7815) versus being a child, while having insurance eligibility was associated with ED visit increasing by 94% (P=0.004; 95% CI, 0.6211, 3.2564) versus having no insurance or ineligible status. Income seemed to have a negative gradient association with respect to ED visits. Household income of more than SAR 3,000 ($800) was associated with ED visits decreasing by 49% to 70% compared with income less than this income.

Social environment conditions of patients seem to play a more significant role in ED visits than issues of patients' self-efficacy. For instance, social support in terms of getting useful advice on important things in life was associated with ED visits increasing by 27% compared to getting no advice (no social life) (P=0.003; 95% CI, 0.4351, 2.1195). However, getting help when sick in bed was associated with ED visits decreasing by 9.4% (P=0.04; 95% CI, -2.1624, -0.0272). The results further suggest that prior hospitalization was associated with 2.7 times higher ED visits versus no history of hospitalization (P<0.001; 95% CI, 1.8070, 3.5188). Surprisingly, hospital staff being specialized was associated with 1.36 times lower ED visits versus no history of hospitalization (P<0.023; 95% CI, -2.5370, -0.1861). This result is not surprising given that nearly three-fourths of the sampled patients visiting ED had less than high school education.

With regard to education level, our study suggests a marginally significant association with ED visits at 10% level. For instance, having a tertiary education level was associated ED visits decreasing by 32% (P=0.089; 95% CI, -2.8393, 0.1996).

Finally, other variables controlled for in the regression were not statistically significant. These variables included gender, marital status, the urgency of health conditions, 24-hour facility service availability, and proximity to ED facility, patients' self-efficacy issues such as the confidence to deal efficiently with unexpected events and ability to think of a solution if in trouble.

Table 2. *Association between ED visits and Covariates*

	Marginal effects	**Std. Error**	**z**	**P>|z|**	**[95% Conf. Interval]**	
Dependent variable=ED visits (12 months)						
Patient hospitalized before	2.6629***	0.4367	6.1000	0.0000	1.8070	3.5188
Patient perceived health status (1=Poor health status is reference)						
2: Fair	0.6467	0.5628	1.1500	0.2510	-0.4565	1.7498
3: Good	1.0940**	0.4901	2.2300	0.0260	0.1334	2.0547
4: Very good	1.4860***	0.5394	2.7500	0.0060	0.4288	2.5432
5: Excellent	2.0381***	0.7576	2.6900	0.0070	0.5532	3.5230
Condition urgent	-0.0013	0.3901	0.0000	0.9970	-0.7659	0.7632
Hospital open all time	-0.3724	0.6206	-0.6000	0.5480	-1.5888	0.8440
Hospital staff specialized	-1.3615**	0.5997	-2.2700	0.0230	-2.5370	-0.1861
Hospital facilities all open	0.3967	0.5765	0.6900	0.4910	-0.7331	1.5266
Hospital proximity	-0.5454	0.4208	-1.3000	0.1950	-1.3702	0.2793
Age category						
2: Adult	1.5558**	0.6254	2.4900	0.0130	0.3300	2.7815
3: Seniors	1.3156*	0.6812	1.9300	0.0530	-0.0194	2.6507
Gender	0.5452	0.6869	0.7900	0.4270	-0.8011	1.8915
Marital status (2=Unreported is reference)						
1: Married	-0.0444	0.7104	-0.0600	0.9500	-1.4367	1.3480
3: Others	0.0417	0.8871	0.0500	0.9630	-1.6970	1.7804
Insurance type (ineligible=base	1.9387***	0.6723	2.8800	0.0040	0.6211	3.2564
Residence (Outside Riyadh=base)	1.1808*	0.6086	1.9400	0.0520	-0.0120	2.3737
Education level (0=No education is base)						
1: Elementary	-0.8457	0.6690	-1.2600	0.2060	-2.1570	0.4656
2: Intermediate	-1.3215	0.8089	-1.6300	0.1020	-2.9069	0.2638
3: High school	-1.1249	0.7435	-1.5100	0.1300	-2.5821	0.3324
4: >Tertiary	-1.3199*	0.7752	-1.7000	0.0890	-2.8393	0.1996
Household income (1=less SAR 3,000 reference)						
2: 3,000-5,000	-1.6981***	0.5554	-3.0600	0.0020	-2.7867	-0.6094
3: 5,001-10,000	-1.4891**	0.6336	-2.3500	0.0190	-2.7310	-0.2473
4: 10,001-15,000	-1.5253*	0.8830	-1.7300	0.0840	-3.2559	0.2053

5: >15,000	-1.7268*	0.9030	-1.9100	0.0560	-3.4966	0.0430
Employment status (3=Homemaker reference group)						
1: Employed	0.1895	0.8129	0.2300	0.8160	-1.4037	1.7828
2: Not employed	0.0057	0.7011	0.0100	0.9940	-1.3685	1.3799
4: Retired	0.7351	0.9389	0.7800	0.4340	-1.1052	2.5754
5: Student	1.1432	1.1475	1.0000	0.3190	-1.1058	3.3922
Have people to care	0.2011	0.5046	0.4000	0.6900	-0.7879	1.1900
Get vital advice	1.2773***	0.4297	2.9700	0.0030	0.4351	2.1195
Get help when sick in bed	-1.0938**	0.5442	-2.0100	0.0440	-2.1604	-0.0272
Can deal with event						
2: Somewhat true	0.2504	0.8340	0.3000	0.7640	-1.3842	1.8849
3: Exactly true	-1.0746	0.9216	-1.1700	0.2440	-2.8809	0.7317
Can think of solution						
2: Somewhat true	-0.3118	0.7247	-0.4300	0.6670	-1.7323	1.1086
3: Exactly true	0.9057	0.9398	0.9600	0.3350	-0.9363	2.7477

Note: Marginal effects for factor levels is the discrete change from the base level: Significant at ***p<0.01; **p<0.05; *p<0.1.

Discussion

Discussion of Results

Previous studies have shown that predisposing, enabling, and need factors explain ED utilization. The present study explored the association between ED utilization and patient and facility-level factors. Our study suggests that in general, older, less-educated, and lower-income groups of patients are more likely to visit ED compared to those patients who were younger, more educated, and with higher income, suggesting that predisposing and enabling factors were associated with more ED visits. It is well documented that predisposing factors such as age and education explain, in part, why people choose to visit the ED (Alghanim and Alomar 2015, Peppe et al. 2007, Babitsch et al. 2012, Pines et al. 2011b, de la Granda Bermúdez et al. 2018). In addition, disadvantaged groups such as less educated individuals were shown to lack knowledge about their health conditions and ways to manage at home and hence resort to ED as their main source of disease management and education (AL-Jahdali et al. 2012). Evidence indicates that elderly tend to use more ED services (Alghanim and Alomar 2015, Pines et al. 2011b, Fuda and Immekus 2006, Ahmed et al. 2018) while other studies showed that both young and old individuals often use ED services (LaCalle and Rabin 2010). Older patients who tend to have multiple co-morbidities may perceive the hospital ED as a better choice to get more advanced healthcare (Peppe et al. 2007). This is especially true when local primary care services are either not accessible or do not provide continuity of care (Ionescu-Ittu et al. 2007).

Our study suggests education level was associated with ED visits decreasing by 32%. This result was however marginally significant 10% level. Previous research showed evidence of predisposing factors such as low education as being associated with both less and more urgent visits (Khan et al. 2011). Results further indicate that individuals who reported less household income and those who had insurance and met the hospital care eligibility requirements were more likely to use the ED. For instance, our study suggests a negative income gradient where patients reporting middle and high-income households were associated with fewer ED visits compared with those who reported lower income. This is consistent previous studies that showed lower- income status is associated with higher ED utilization (Vaz et al. 2014). Having insurance eligibility was associated with more ED visits in our study. While this result is consistent with evidence that having both public and private coverage was associated higher likelihood of visits to ED visits (Berra et al. 2006), it contradicts previous research which indicated that patients who were uninsured did not use the ED more than those are insured (Peppe et al. 2007, Fuda and Immekus 2006).

Our findings show that those individuals with perceived good or excellent health status are likely to make more ED visits than those with poor perceived health. However previous research showed that having a worse health status was more likely to be associated with higher visits to a healthcare professional, or utilize emergency department services (Khan et al. 2011). Current evidence also shows that need factors do play an important role in determining the actual use of urgent healthcare (Peppe et al. 2007, Fuda and Immekus 2006, LaCalle and Rabin 2010). The need factors are considered the most proximal reasons for seeking healthcare services (Andersen 1995). When people perceive high urgency of their health need, they are likely to seek immediate care. This can arise from both personal factors and system factors. From a personal perspective, people who have a high expectation of optimal health or who are more susceptible to health problems may sense the urgency to seek healthcare even for a small change in their health condition (Peppe et al. 2007). A social circle that holds similar health-related beliefs may reinforce such finding and our analysis in terms of getting advice from others. This finding highlights the importance to differentiate between perceived versus the actual need of emergency care. It seems that patients who are highly health-conscious tend to utilize healthcare regardless of the actual need, while those with potential clinical need do not obtain appropriate healthcare. This may suggest an imbalance of utilization of healthcare resources with more resources used by those who are less in need. From a system perspective, poor disease management and follow-up system may increase the need to visit the hospital emergency room. Surprising, results suggest that the availability of better medical staff in the facility is associated with lower ED. However, this may not be surprising given the high percentage of uneducated patients seeking ED services, which may confound their lack of knowledge about type and quality of care they seek.

Our results indicated a higher use of ED among patients with a history of hospitalization compared to individuals with no prior hospitalization. This may be explained by the actual need of those affected to mitigate disease complications due to lack of appropriate follow-up and disease management post to hospital discharge (Alsirafy et al. 2016).

While social support appeared to relate to their role as re-enforcing factors in influencing an individual's utilization of ED services, our study suggests mixed results. For example, we find that high social support in terms of *getting useful advice on important things in life* was associated with more ED visits. This finding does contradict the notion that social isolation or lack of social support is a significant driver of observed increases in demand for healthcare (Marco et al. 2012, Carret et al. 2007, Claver and Levy-Storms 2010, Sandoval et al. 2010, Aminzadeh and Dalziel 2002). Instead, it suggests is that having social support makes individuals utilize ED services more perhaps to encourage seeking timely care. However, the results also suggest that *getting help when sick in bed*, especially from family was associated with decreased ED, which does support the findings of the previous studies (Marco et al. 2012, Carret et al. 2007, Claver and Levy-Storms 2010, Sandoval et al. 2010, Aminzadeh and Dalziel 2002).

Limitations

Our study has several limitations. First, our study was a cross-sectional study that collected ED visits, patient and facility-level data during a single point in time. While our study suggests important findings regarding predisposing, enabling, reinforcing and social factors that influence patients' ED utilization, it provided only a snapshot of the analysis of ED visits. Thus, our study was limited in its ability to establish true causality possibly because our response variable and patient and facility-level characteristics and/or predisposing, enabling and need factors were measured concurrently in one period. It is somewhat challenging with one-point time data to establish whether patients visited for own sake first based on perceived need or the enabling and predisposing factors did actually convince them to make a visit to the ED.

Additionally, parts of patients' information were potentially subject to recall bias. For example, patients provided the number of times they visited the ED in the preceding 12 months healthcare staff checked their medical records. Even then, biases in medical records are invariably present due to errors of entry or misclassification. Our study was somewhat limited to ascertain the existence (or lack thereof) of confounding factors in the data. There are various methods of dealing with such problems, including randomization, but that was beyond the scope of our study.

Future Research Recommendations

Despite these limitations, our study offers several future research recommendations. First, with regard to issues such as facility-level data such as the history of hospitalization, we recommend further and deeper investigation in order to establish whether indeed these factors are facility-specific or system-wide phenomena. Further research on such issues will go a long way in helping facilities to institute measures that ensure better care and isolate facility-specific practice style as natural experiments to examine the comparative effectiveness of different ED facilities in the locality. Furthermore, to address the limitation of cross-section data and possibly establish true causality of the covariates on ED utilization, we recommend robust longitudinal studies that follow patients' records over multiple periods. Finally, in order to deal with retrospective data-related biases and the possibility of the presence of confounding factors, we recommend future studies to consider randomization or other methods of minimizing such challenges when designing studies.

Implications

The finding may also have important implications for facilities and health care systems in terms of overcrowding and negative patient outcomes in Saudi Arabia, especially when hospitals are taking proactive measures to prevent infectious diseases such as the Middle East Respiratory Syndrome Coronavirus (MERS-COV). The results may also have implications for cost-consciousness, which is becoming an integral part of national development vision. We expect the results of our study to inform not only facilities and health care systems about the determinants of ED visits and imbalance therein, but also may spur future research. In this regard, we offer several recommendations that we believe will help hospitals deal with inappropriate ED visits, especially in an acute setting. We also envisage that our study will spur future research to better inform the management of facilities.

Conclusion

This study set out to examine the association between ED utilization and patient and facility-level factors predisposing, enabling, and socially reinforcing that need at the National Guard Health Affairs (NGHA) Hospital in Riyadh, Saudi Arabia. Our study suggests that in general, older, less educated, and lower-income groups, patients with a history of hospitalization, patients with less urgent medical condition, those with sound perceived health status, and patients with social and family support were more likely to utilize ED services. As ED visits continue to rise, these findings may inform predisposing, social/ reinforcing, enabling, and need factors that influence ED utilization in the country. Since this study is the first of its kind to be undertaken in Saudi Arabia to examine the association of these factors with ED demand, it may potentially add to the growing literature on ED utilization by contributing to the understanding of the crucial role of context and local application. Thus, it may provide workable evidence, especially in the wake of limited studies dealing with the imbalance between ED utilization and perceived or clinical need in the region.

List of Abbreviations

ED-Emergency department
EHS-Emergency health services
ESs-Enhanced Services (ESs)
IRB-Institutional Review Board (IRB)
KAIMRC-King Abdullah International Medical Research Center
KFNGH-King Fahad National Guard Hospital in Riyadh
KMAC-King Abdulaziz Medical City
PCR-Primary care-related
QUT-Queensland University of Technology
SAR-Saudi Arabian Riyal

Declarations

Ethics Approval and Consent to Participate

The research committee of King Abdullah Medical Research Center (KAIMRC) reviewed this study and granted institutional review board (IRB) under research protocol R15/131/R.

Consent to Publish

Not applicable.

Availability of Data and Materials

Data supporting study findings are available upon request.

Competing Interest

The authors declare no conflict of interest.

Funding

The authors would like to express their thanks and gratitude to King Abdullah International Medical Research Center (KAIMRC) for providing funds for this project.

Authors' Contributions

OBD guided on the conception and methodology of the study, performed the statistical analysis, drafted manuscript, and approved the final version for this manuscript for submission. KA reviewed conception, conducted literature review and discussion, reviewed, and approved the final version for this manuscript for submission. MA reviewed conception, helped and facilitated site preparation, piloting and data collection. He reviewed draft manuscript and approved final version for submission.

Acknowledgements

The authors would like to express their thanks and gratitude to King Abdullah International Medical Research Centre (KAIMRC) for providing the funds and IRB approval code R15/131/R. The authors would also like to thank the research assistants who collected and the data encoders.

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A Population at Risk:
A Metabolic Syndrome Study among African American Students at a Historically Black College and University

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The aim of the study was to obtain information about what African American undergraduate students attending a Historically Black College and University knew about metabolic syndrome and the risks associated with the syndrome. Approval from the Allen University Institutional Review Board was granted to administer an online anonymous questionnaire about metabolic syndrome to undergraduate students at Allen. The questionnaire was administered using the community based participatory research (CBPR) methodology. The sampling criteria consisted primarily of freshman that were enrolled in the Biological Sciences course, Biology I course, Biology II course, or Freshman Seminar course during the spring 2018 semester and the fall 2018 semester. The sample size consisted of 77 students that completed the online questionnaire on metabolic syndrome. The data from the metabolic syndrome questionnaire was analyzed using descriptive statistics, utilizing percentages from a cross-tabulation of individual responses. The results of the study indicated that some students had a family history of diabetes (41%), high cholesterol (13.5%), heart attack (15%), and stroke (13.5%). Also, 54.1% identified the types of diabetes, 17.6% of the students knew the risk factors of obesity, 31% knew how high cholesterol is detected, 20.9% knew the symptoms of a heart attack, and 25.7% knew the symptoms of a stroke. Based on the results from our study, we hypothesize that introducing a multi-layered educational campaign centered around metabolic syndrome at Allen will increase student knowledge of the risk factors and decrease the number of the African American students that are diagnosed with high blood pressure, high blood glucose levels, and high cholesterol levels.

Keywords: *African American, College students, Metabolic syndrome, Risk Factors, Universities*

Background

Metabolic syndrome (MetS) is an assortment of interrelated metabolic and clinical risk factors (Gaillard 2018). It includes abdominal obesity, dyslipidemia, glucose intolerance, and hypertension which are associated with an increased risk for cardiovascular disease (CVD) and type 2 diabetes (T2DM) (Gaillard 2018). The National Cholesterol Education Program Adult Treatment Panel III (NCEP ATP III) guidelines states that metabolic syndrome is present if three or more of any of the following criteria are met: 1) waist circumference over 40 inches (men) or 35 inches (women); 2) blood pressure over 130/85 mmHg, fasting triglyceride (TG) level over 150 mg/dl; 3) fasting high-density lipoprotein (HDL) cholesterol level less than 40 mg/dl (men) or 50 mg/dl (women); and 4) fasting blood sugar over 100 mg/dl (Grundy et al. 2005). According to the International Diabetes Federation (IDF) guidelines, a person defined as having metabolic syndrome must

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have central obesity and two or more of the following four factors: 1) reduced HDL cholesterol levels: <40 mg/dL (1.03 mmol/L) in males and <50 mg/dL (1.29 mmol/L) in females, or treatment for lipid abnormality; 2) raised triglycerides: ≥150 mg/dL (1.7 mmol/L) or treated for lipid abnormality; 3) raised blood pressure levels: systolic blood pressure ≥130mmHg or diastolic blood pressure ≥85 mmHg or previously diagnosed with hypertension; and 4) raised fasting plasma glucose concentration ≥100 mg/dL (5.6 mmol/L) or previously diagnosed with type 2 diabetes (Ford et al. 2008).

Insulin resistance, abdominal obesity and an inactive lifestyle are risk factors for metabolic syndrome (National Heart, Lung and Blood Institute 2019). Lifestyle, gender, ethnicity, socioeconomic status, psychosocial factors and some inflammatory markers are key components in the pathogenesis of metabolic syndrome (Khan et al. 2015). A study has shown that the principal feature of metabolic syndrome is insulin resistance, resulting in hyperglycemia and hyperinsulinemia, which leads to the development of diabetes (Shulman 2000). The same study found that obesity is the most important predisposing factor for insulin resistance (Shulman 2000). Unfortunately, African Americans have a high percentage of being diagnosed with diabetes (National Center for Chronic Disease Prevention and Health Promotion 2017). Also, obesity is found at disproportionately high rates within the black community (National Center for Health Statistics 2017). In addition, African Americans have a higher risk for cardiovascular disease and having a stroke (Benjamin et al. 2019).

Recently, a study was conducted that analyzed data from the National Longitudinal Study of Adolescent to Adult Health. The study proposed that a higher rate of metabolic syndrome will occur among Hispanic adults and African American adults from disadvantaged backgrounds, after completing their college degree. The study suggests that racial disparity in minorities with a college degree may persist if their health is compromised in young adulthood (Gaydosh et al. 2018).

An analysis of a pooled studies report indicated that metabolic syndrome is prevalent among young adults that are between the ages of 18 and 30 (Nolan et al. 2017). A metabolic syndrome study conducted by Huang et al. in 2004 stated that colleges and universities were important settings for the surveillance, prevention, and intervention of becoming overweight and metabolic syndrome. The study was one of the first studies to examine the associations between obesity and components of metabolic syndrome in college students in the United States. Their study indicated that overweight and metabolic dysfunctions constitute a major health threat at the college age. Since 2004, several metabolic syndrome studies have been conducted with college students. The studies indicated a prevalence rate of metabolic syndrome that was between 3.7% and 15%. Also, the rate for one criterion of metabolic syndrome was between 16% and 43% and the rate of two criterion of metabolic syndrome was between 7.4% and 20.7% (Huang et al. 2007, Keown 2009, Fernandes and Lofgren 2011, Dalleck and Kjelland 2012, Topé and Rogers 2013, Morrell et al. 2014, Olfert et al. 2018). Currently, only one metabolic syndrome study with African American college students that has been conducted at an Historically Black College and University has been published. Topè &

Rogers (2013) conducted their study at Kentucky State University, which is a Historically Black College and University that predominately consists of African American students. According to the NCEP ATP III guidelines, 31.4% of their students had 1 criterion for metabolic syndrome and 20.7% had 2 criteria for metabolic syndrome. However, according to the IDF guidelines, 21.3% of their students had 1 criterion for metabolic syndrome and 17.5% had 2 criteria of metabolic syndrome. Overall, the prevalence of metabolic syndrome in the total sample population was 12% (NCEP ATP guidelines) and 9.3% (IDF guidelines). The researchers concluded that Historically Black Colleges and Universities offer a unique opportunity to monitor and address the risk factors of metabolic syndrome in a predominantly young African American population (Topè and Rogers 2013).

Aim of Study

There is a significant lack of research that has been conducted in regards to metabolic syndrome among African American college students that attend a Historically Black College and University. The aim of our study was to obtain information about what African American undergraduate students at Allen University knew about metabolic syndrome and the risks associated with metabolic syndrome.

Methods

Ethical Approval

An anonymous online questionnaire on metabolic syndrome was reviewed and approved by the Allen University Institutional Review Board. The questionnaire template in Google Forms was used to create questions pertaining to the following: ethical background, age, gender, classification, major, family health history, individual health and health risks. The second section of the questionnaire assessed the participant's knowledge of the health risks associated with metabolic syndrome.

Sampling Criteria and Size of Participants

The students that were recruited to complete the metabolic syndrome questionnaire were undergraduate students that were primarily freshman and African American. The community based participatory research (CBPR) methodology (Wallerstein and Duran 2006) was used to conduct the online questionnaire among the undergraduate students at Allen. The participants that participated in the study were enrolled in the Biological Sciences course, Biology I course, Biology II course, or Freshman Seminar course. The students were invited to participate in completing the questionnaire which was administered in the spring of 2018 and the fall of 2018 during their class time. These courses were chosen because they consist of large class sizes in comparison to the upper level courses. The students were informed that their participation in the questionnaire was voluntary and that a written consent was required before they could complete the questionnaire. All participants were also informed that they could withdraw from completing the questionnaire at any time without any adverse consequences. Each participant that completed the questionnaire received extra credit points. The consent form that was completed by the participants was maintained in a designated locked facility. A total of 77 participants completed the questionnaire. The demographics of the participants consisted of 97.3% African American, 4.1% African, and 1.4% other. Also, 85.1% were freshman and 13.5% were sophomores. A total of 37.8% of the participants were female and 62.2% were male. The age of the participants consisted of 4.1% that were 18 years or younger and 78.4% that were between 18 and 20 years old. The majority of the participants were business majors (44.7%). Also, 28.4% of the participants were biology majors (23%) and 17.7% were social science majors.

Data Analysis

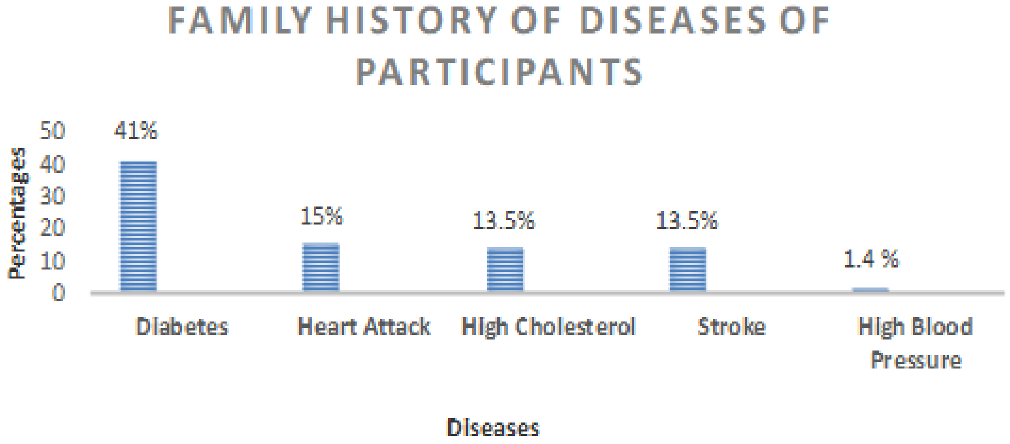
The data obtained from the online metabolic syndrome questionnaire was reviewed from the responses recorded on the survey that was created using Google Forms. It was analyzed using descriptive statistics, utilizing percentages from a cross-tabulation of individual responses.

Results

Among the 77 participants that completed the metabolic syndrome questionnaire, 32.9% of them exercised every day, 81.1% identified as being non-tobacco smokers, 38.4% claimed to never have consumed alcohol, 61.1% claimed to never have used illegal drugs, and 56.8% did not take prescription medication or get treatment prescribed by a doctor to maintain their health. The personal health information of the participants indicated that 43.6% had allergies, 25.5% had asthma, 3.6% had diabetes, 3.6% had sickle cell anemia and 1% had epilepsy. Also, only 46% of the female participants indicated that they exercised routinely in comparison to 75% of the male participants.

A total of 33.8% of the students knew how obesity was defined and 17.6% knew the risk factors for obesity. In regards to knowledge related to high blood pressure and high cholesterol, just 23% knew how high blood pressure is measured and 31% knew how high cholesterol is detected. Also, 20.9% knew the symptoms of a heart attack, 35.1% knew when a stroke occurred, and a mere 25.7% knew about the symptoms of a stroke. Over half of the sample was able to properly identify the risk factors for high blood pressure. The participants also had high percentages associated with their knowledge of diabetes, with 60.8% of them knowing how diabetes is defined and 54.1% of them being able to identify the types of diabetes.

Figure 1. *The Family History of Diseases of the Participants that Completed the Metabolic Syndrome Questionnaire*



Note: A total of 13.5% of the participants also indicated that they had a family history of diabetes, heart attack, high cholesterol, stroke and high blood pressure.

Table 1. *Female Responses versus Male Reponses on the MetS Questionnaire*

Conditions	**Question**	**Females (n=37.8%)**	**Males (n=62.2%)**
Obesity	How obesity is defined	38%	32%
	Risk factors of obesity	33%	9%
Diabetes	How diabetes is defined	75%	50%
	Symptoms of diabetes	67%	82%
High Blood Pressure	Normal blood pressure reading	1.2%	22.5%
	Risk factors of high blood pressure	63%	47.5%
High Cholesterol	Cause of high cholesterol	8.3%	29%
	Detection of high cholesterol	17%	27.5%
Heart Attack	Knowing when a heart attack occurs	42%	45%
	Symptoms of a heart attack occurs	20.8%	20%
Stroke	Knowledge of when a stoke occurs	37.5%	37.5%
	Symptoms of a stroke	16.7%	43.5%

Among the 41% of participants that had a family history of diabetes, 79% of them were able to properly identify how diabetes is defined and 67% of them properly identified all of the symptoms associated with diabetes that were outlined in our questionnaire, including frequent thirst and urination, fatigue and excessive hunger. Of the 13.5% of participants with a family history of strokes, none of them knew how to detect when a stroke has occurred or the symptoms of a stroke. As of the 15% participants that had a family history of a heart attack, all of them were able to indicate what happens when a heart attack occurs. However, none of them were able to determine the symptoms of a heart attack.

Table 2. *Responses from Participants with a Family History of Diseases and Responses from Participants without a Family History of Diseases*

Conditions	**Question**	**No History of Disease**	**History of Disease**
Obesity	How obesity is defined	40%	24%
	Risk factors of obesity	24%	9%
Diabetes	How diabetes is defined	87%	23%
	Symptoms of diabetes	72%	3%
High Blood Pressure	Normal blood pressure levels	18%	22%
	Risk factors of high blood pressure	57%	45%
High Cholesterol	Cause of high cholesterol	19%	23%
	Detection of high cholesterol	18%	27.3%
Heart Attack	Knowing when a heart attack	37%	45%
	Symptoms of a heart attack	37%	18%
Stroke	Knowledge of when a stoke occurs	37%	45%
	Symptoms of a stroke	27.2%	29.2%

A total of 62% of the participants indicated a family history of diabetes, heart attack, high cholesterol blood pressure or stroke. A total of 35.1% of the participants indicated that they did not have a family history of diabetes, heart attack, high cholesterol blood pressure or stroke.

In spite of a familiarity with many of the health risks related to metabolic syndrome, the participants in this study possessed little knowledge on how these afflictions were tested. Overall, 25.7% of the participants knew the main test used to detect diabetes. A total of 31% of those with an at-risk family history knew the main test for diabetes and only 14% of participants without a family history of disease knew the main test used to indicate if someone has diabetes. As stated earlier, 31.1% of the participants knew the test that was used to detect high cholesterol. This was significantly less that the participants with a family history of diabetes and high cholesterol (44%).

The students, across multiple categories, purported to exercise at regular rates. A total of 32.9% of the participants exercised every day, 32.9% of participants exercised a few times a week, and 19.2% that exercised a few times a month. A total of 57% of the participants who were at risk for metabolic syndrome due to their family history exercised regularly and 77% without such a family history exercised regularly.

Less promising were the results that pertained to the appropriate preventive measures to protect against the risk factors associated with metabolic syndrome. A total of 36.5% of the participants were able to identify healthy eating as a preventative measure. However, only 12.2% identified exercising on a regular basis as a preventative measure. Also, only 9.5% were able to identify maintaining a healthy weight as a preventative measure. Among the participants with a family history of metabolic syndrome risk factors, 31% were unable to properly identify a preventive strategy. This was also true for an astonishing 59% of those with no family history of disease.

Discussion

The number of participants that completed the questionnaire for our study was low and consisted of a total of 77 participants. This was due to the fact that this is the first phase of an ongoing multi-prong longitudinal study. The second phase of our metabolic syndrome study will consist of administering the questionnaire in the fall of 2019 and the spring of 2020. The same courses will be used to obtain volunteers to participate in the study. The data for both academic years will be used as the foundation of the third phase of the study.

Out of the 77 participants that completed the questionnaire, 43.6% had allergies, 25.5% had asthma, 3.6% had diabetes, 3.6% had sickle cell anemia and 1% had epilepsy. Also, the family history of diabetes, heart attack, high cholesterol, stroke and high blood pressure of the participants was 41%, 15%, 13.5%, 13.5%, and 1.4% respectfully (Figure 1).

Across the board, the students who participated in our anonymous online questionnaire indicated low levels of knowledge of metabolic syndrome, its accompanying factors and how best to avoid becoming victims of what authors such as Grundy et al. (2005) have already labeled as a pandemic. The results from our study are in contrast to the data from a metabolic syndrome study with college students that was conducted by Yahia et al. (2014). Their study indicated that more than 80% of their participants correctly identified symptoms and complications of diabetes, hypertension, arteriosclerosis, myocardial infarction and stroke on an online metabolic syndrome questionnaire. In our study, less than 50% of the participants knew the following: 1) how obesity is defined; 2) detection of diabetes; 3) risk factors of diabetes; 4) how high blood pressure is measure, 5) detection of high cholesterol; 6) symptoms of a heart attack; 7) knowledge of when a stroke has occurred; and 8) symptoms of a stroke. However, more than half of the participants knew how to identify the risk factors for high blood pressure and 54.1% of the participants knew how to identify the types of diabetes. Even though the percentages were more than 50%, the percentages are still significantly lower than the results from the study conducted by Yahia et al. (2014).

The percentage of participants in the study conducted by Yahia et al. (2014) that had a family history of diabetes was 23% which was significantly less than the 41% of the participants in our study. However, the number of participants in their study that had a family history of high blood pressure was 41% which was significantly higher than the 1.4% of participants in our study. The number of participants that were non-smokers in the study conducted by Yahia et al. (2014) was 89%, which was very similar to the 81% of the participants in our study that were non-smokers. Also, the number of current smokers in their study was 6% which was significantly the same as the 6.8% in our study. On the other hand, there was a noticeable difference in the number of African American participants in the study conducted by Yahia et al. (2014), which was 10%. This was an extremely low number in comparison to the number of African American participants in our study which was 97.3%.

Yahia et al. (2014) also stated that the percentage of their participants consisted of 72% females and 28% males. Conversely, our study consisted of

37.8% participants that were females and 62.2% that were males. The difference in gender and correct answers in the study conducted by Yahia et al. (2014) indicated that a higher percentage of female participants correctly answered questions about health conditions associated with metabolic syndrome in comparison to the males. As shown in Table 1, the results of our study indicated a higher percentage of female participants correctly answered questions about health conditions associated with metabolic syndrome in comparison to the males as well. A slightly higher percentage of females knew the risk factors of obesity (38%) in comparison to the male participants, which was 32%. More females knew how diabetes is defined (75%) than males, which was 50%. Also, 63% of the female participants knew the risk factors of high blood pressure compared to 47.5% of the male participants. A higher percentage of male participants, however, knew the normal blood pressure reading (22.5%), cause of high cholesterol (29%), and detection of high cholesterol (27.5%). This was in comparison to the female participants whose percentages for the same questions were significantly lower at 1.2%, 8.3%, and 17%, respectfully. Gender, however, displayed no significant relationship in knowledge of when a heart attack has occurred, symptoms of a heart attack or knowledge of a stroke.

There was not a significant association with the performance of the participants that had a family history of disease in the results of the metabolic syndrome study conducted by Yahia et al. (2014). However, the participants in our study that had a family history of the components of metabolic syndrome were more knowledgeable than the participants without a family history of components of metabolic syndrome (Table 2). Participants with a family history of health conditions associated with metabolic syndrome knew how obesity is defined (40%), risk factors of obesity (24%), how diabetes is defined (87%), symptoms of diabetes (72%), risk factors of high blood pressure (57%), and symptoms of a heart attack (37%). The responses from the participants that didn’t have a family history of the conditions of metabolic syndrome for the same questions were 24%, 9%, 23%, and 3%, 45%, and 18% respectively. Overall, both groups of participants would benefit from more knowledge associated with those health conditions.

It was encouraging to see that 79% of participants with a diabetic family history (41%) were able to properly identify how diabetes is defined. It was also heartening to see that 67% of participants with a family history of diabetes were able to identify all of the symptoms associated with diabetes. However, the 13.5% participants with a family history of strokes were unable to determine how to determine when a stroke has occurred or the symptoms of a stroke. Also, of the 15% of participants that had a family history of a heart attack, none of them could determine the symptoms of a heart attack but they all were able to determine what happens when a heart attack occurs. This data is startling because two different metabolic research studies indicated that a family history of a component or components of metabolic syndrome influences the likelihood that the offspring will develop the same health condition(s). Liese et al. (1997) stated that the development of diabetes in the experimental group of their study increased the odds of developing metabolic syndrome if both parents had diabetes and high cholesterol. Santos et al. (2013) indicated in their study that components of metabolic syndrome was significantly heritable in their sample of participants and exhibited strong familiar resemblance with correlations between biological relatives of similar magnitude. Thus, given the patterns of family health history unearthed in our survey, our data suggests that shared knowledge of metabolic syndrome would be very beneficial to this group of students. The shared knowledge of metabolic syndrome could possibly reduce their chance of being diagnosed with diabetes, experience a stroke or experience a heart attack, respectively.

The rate of exercise overall was one of the more positive patterns produced from the metabolic syndrome questionnaire data. A total of 32.9% of the participants exercised daily, 32.9% of the participants exercised a few times a week, and 19.2% exercised a few times a month. Also, 57% of those who were put at risk for metabolic syndrome due to their family history exercised regularly and 77% of participants without such a family history exercised regularly. The high percentage of participants that exercised daily or a few times a week was due to the fact that a total of 53.8% of the participants were student athletes in comparison to 46.2% that were not student athletes. Research has shown that exercise is one of the more effective ways to combat metabolic syndrome. A study conducted by Ford et al. (2005) in regards to sedentary behavior, physical activity, and metabolic syndrome indicated that the participants that did not incorporate moderate of vigorous physical activity during their leisure time had almost twice the chance of having metabolic syndrome. Thus, knowledge of the importance of exercising regularly to reduce the possibility of developing the risk factors of metabolic syndrome or developing metabolic syndrome would be advantageous to the participants that have a family history of a risk factor or risk factors of metabolic syndrome.

In our study, 36.5% of the participants were able to identify healthy eating as a preventative measure against the risk factors of metabolic syndrome. Also, 12.2% identified exercising regularly as a preventative measure and only 9.5% identified maintaining a healthy weight as a preventative measure. This is alarming because less than 50% of the students were able to correctly identify the proper preventative measures against the risk factors associated with metabolic syndrome. According to Daskalopoulou et al. (2004), one of the treatments used for metabolic syndrome is lifestyle modifications. These modifications include weight reduction and physical activity. Weight reduction, physical activity, and healthy eating are preventative measurements against being diagnosed with any of the risk factors of metabolic syndrome. The fact that less than 50% of the participants in our study were unable to properly identify one, two or all three of the preventative measures against developing metabolic syndrome indicates how this group would benefit from knowing this information.

Conclusion

After analyzing the data from our metabolic syndrome study, it is quite apparent that it is imperative to improve the knowledge that our students have about the risk factors of metabolic syndrome by educating them. Just as Yahia et al. (2014) concluded, raising our student's awareness about metabolic syndrome based on their pre-existing knowledge of it will enhance their health and wellness. This is especially important since there was a high percentage of students that had a family history of diabetes, high cholesterol, high blood pressure, heart attack and stroke. This is disturbing but it reflects the statistics associated with these health conditions as it relates to the high rates of African Americans being diagnosed with diabetes, obesity cardiovascular disease and stroke (National Center for Chronic Disease Prevention and Health Promotion 2017, National Center for Health Statistics 2017, Benjamin et al. 2019).

Unfortunately, the majority of the studies with college students have been conducted at colleges and universities that predominantly consist of Caucasian males and Caucasian females. It is important to state that our study is the second published study on metabolic syndrome with college students that were predominately African American at a Historically Black College and University. The first study that involved African American college students at a Historically Black College and University was published by Tope et al. in 2013. The study was conducted at Kentucky State University and was a cross sectional study on metabolic syndrome that studied the prevalence rates of criteria associated with metabolic syndrome. The study involved obtaining anthropometrics and biochemical and clinical assessments from each participant. Their study indicated that several participants of their cross-sectional study had 1 criterion (20.7%, NCEP ATP III guidelines; 31.4% IDF guidelines) or 2 criteria of metabolic syndrome (20.7% NCEP ATP III guidelines; 17.5% IDF guidelines).

Based on our study and the cross-sectional metabolic syndrome study that was conducted by Topè and Rogers (2013), it is obvious that there is a critical need for Historically Black College and Universities and other minority serving institutions, to implement health screenings and educational initiatives for their students. Also, according to the study conducted by Gaydosh et al. (2018), a higher rate of metabolic syndrome will occur among African American adults from disadvantaged backgrounds even if they obtain a college degree. Thus, the authors of this metabolic syndrome study will be collecting more data during the 2019-2020 academic year during the second phase of our study. We will then use the data for both academic years for the third phase of our study. This will involve collaborating with the campus health personnel and local health organizations to introduce a multi-layered educational campus campaign at Allen that is centered around increasing the knowledge of metabolic risk factors among the undergraduate African American students at Allen University. Furthermore, the educational campus campaign will help to decrease the number of students that are diagnosed with diabetes, high blood pressure, high blood glucose levels, and high cholesterol levels. Overall, the program will help to reduce the number of the undergraduate African American students at Allen from being diagnosed with metabolic syndrome as older adults.

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The Weight Attached to Dieting: Health, Beauty and Morality in Sweden from the End of the Nineteenth Century to the Present Day

By Pia Lundquist Wanneberg[*]

Over the last hundred years a new ideal body norm has been established. We should be thin, or at least strive to be. Consequently, dieting has become a topical subject. This article aims to examine the history of Swedish dieting from the introduction of William Banting's diet into Sweden at the end of the nineteenth century to the present day. The article takes tries to answer the following questions: Why did people diet? Was it for aesthetic, social or health reasons? Or was it a physical expression of good morality in the form of self-discipline and control? The theoretical basis of this study is inspired by Michael Foucault's concept of biopower and the study method is a qualitative text analysis done by examining medical books and weekly newspapers. The findings show that a strong argument for dieting was the health risks which corpulence was deemed to be linked to. But there were moral, aesthetic and psychosocial reasons too. All these reasons appeared, to a lesser or greater extent, in both medical books and weeklies during the whole period. Aesthetic reasons, however, featured most prominently in weeklies, whereas medical books devoted most space to health reasons. When discussing the latter, physicians, often, however, strayed onto moral reasons. Highlighted as the psychosocial reason were the derision and insults corpulent people endured, which made their lives miserable because they could not participate in society in the same way as thin people. In this context, dieting was portrayed as little short of a miracle. If only an overweight person became thin, their life would change and they would be happy. There is such an abundance of these dieting stories in weeklies that they constitute their own genre.

Keywords: *Dieting, Body norm, History, Biopower, Qualitative text analysis*

Over the last hundred years or so, a new ideal body norm has been established: we should be thin or at least strive to be. As a consequence of the new body ideal, dieting became a topical subject and still is with the new dietary advice and miracle diets we are continually being fed. The history of dieting can, however, be traced back to at least ancient Greece and even to the Christian ideals of controlled eating and fasting (Foxcroft 2011). At that time, people were not, however, dieting as we know it but adhering to a diet for medical, moral and/or religious reasons; gluttony was a sin, and starvation could put people, especially young women, in contact with God. During the nineteenth century, however, the meaning of adhering to a diet changed to include also dieting (Stearns 1997), whose popularity can actually be dated to 1863, when the Englishman William Banting published *Letter on Corpulence*. To be sure, the negative consequences of corpulence had been observed earlier in Europe but without garnering much attention, the reason being corpulence was associated with status, and thinness with starvation and poverty (Vester 2010). However, it seems the time was ripe for Banting's work.

Banting had been corpulent, and his pamphlet aimed to help others in the same predicament. What set the pamphlet apart was it contained a plan, a course

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of treatment, in which dieting was an end in itself. The course of treatment proved hugely successful, spreading across Europe and to the United States and giving birth to "dieting," a new word for "weight reduction" (Zweiniger-Bargielowska 2010). Nowadays, the notion exists that dieting is particularly a women’s issue, caused by an ever-thinner body ideal, which research has also highlighted (see, for example, Bordo 1993, Sobel and Maurer 1999, Stinson 2001). However, Banting’s target group was British middle-class men. His course of treatment embraced food such as red meat and alcohol, which were linked to masculinity and economic prosperity. Moreover, the slimmed-down body was in keeping with the contemporary middle-class male ideals of discipline and self-control. Women were therefore not initially included; however, middle-class women first became involved when dieting was an established male activity (Vester 2010). It would appear that at the turn of the twentieth century working-class women did not suffer from obesity; if anything, it was the opposite given the then food tradition, at least in British working-class homes, where the man as the breadwinner ate first, followed by the children and lastly the woman (Zweiniger-Bargielowska 2010).

Banting’s pamphlet, as already mentioned, spread throughout the Western world, including Sweden. The question is how was Banting’s concept received and developed. The article aims to examine precisely this, with the focus on why did people diet. Was it for aesthetic, social or health reasons? Or was dieting a physical expression of good morality in the form of self-discipline and control? Did the reasons change over time and, if so, in what way?

Literature Survey

In international research on dieting, the main focus is on obesity. One such study is Hillel Schwartz’s *Never Satisfied: A Cultural History of Diets, Fantasies and Fat*, which has to be regarded as a standard work in the field. The study spans just over 150 years and examines the American obsession with obesity and diets in relation to the new body ideal that arose with the growth of the consumption society at the end of the nineteenth century. Its thesis is that obesity began at this time to undergo a transformation, from having indicated esteem and respect to being regarded as a disease. Since then, the country has seen many diet fads, with dieting having become part of American society (Schwartz 1986). Schwartz sees the growth of, for example, the fashion industry, the marketing of goods and services, and medical technology, for instance modern society’s increasing fixation with measuring things, as the underlying reasons for this. Here people’s weight came to serve as an index of character as well as health and beauty.

Obesity in America is also a central theme of Peter N. Stearns’ *Fat History: Bodies and Beauty in the Modern West*. Stearns, however, makes a comparison with France based on America being the most obese nation in the Western world and France the thinnest. How the French and the Americans viewed obesity changed during the twentieth century, but their reasons for not being overweight differed. While the French were thin for health and beauty reasons, moral aspects dominated in America (Stearns 1997). Stearns explains the new thinner body ideal as being cultural. According to him, only cultural factors, for example the consumption, beauty and morality culture, can explain how the two countries developed and differed. He does not, however, discuss what culture is and how cultures are changed.

The British author Louise Foxcroft's book *Calories & Corsets: A History of Dieting over 2,000 Years* discusses, among other things, diets as well as shortcuts and methods for at least looking thin: everything from corsets and rubber underwear to laxatives and strychnine (Foxcroft 2011). The long period covered, however, produces a rather general and epic picture of the subject and does not answer why it was important to look thin or lose weight. A more theory-driven British study is *Managing the Body: Beauty, Health and Fitness in Britain, 1880–1939,* by Ina Zweiniger-Bargielowska. This study examines training and weight control in relation to the male body's physical degeneration, deemed to have taken place at the beginning of the twentieth century and viewed as a threat to Britain's powerful position (Zweiniger-Bargielowska 2010). The book's focal point is the relationship between the citizens' bodies and the bodies the governments wanted to see, which Zweiniger-Bargielowska studied by looking at the health education campaigns. For instance, male obesity first needed to be tackled, and not long after, female obesity.

In Swedish studies, too, the focus is more on overweightness and obesity than on dieting, even though the subject is touched upon. In the study *I ett bolster av fett* [In a Cushion of Fat], Fredrik Nilsson examines obesity in relation to masculinity and class, to be more precise an analysis of the transition from a rotund peasant ideal to a thinner middle-class variant. Nilsson shows that during the nineteenth century overweightness in men was slowly but surely defined as a problem by principally the medical profession and in medical research but also by various social commentators (Nilsson 2011). According to Nilsson, the view was reinforced in the twentieth-century Swedish welfare state when overweightness went from being seen as a middle-class problem to being categorised as a national disease. Not only the government but also organisations were involved in the fight against the flab. The 1940s saw the establishment of, for example, Föreningen Fetmans Fiender (The Association of the Enemies of Obesity), which, according to Nilsson, acted as a national bulwark against the consequences of overweightness for the individual and society. The association (active until 2012) focused on physical activity in the form of, for instance, gymnastics, swimming as well as saunas. Private actors gradually replaced organisations; one well-known example is the American company Weight Watchers, which established itself in Sweden in the 1970s.

Obesity, from a societal perspective, is also the theme of Helena Sandberg's *Medier & fetma: en analys av vikt* [Media & Obesity: An Analysis of Weight]. More specifically, her study examines how overweightness was represented in four Swedish daily newspapers between 1997 and 2001 as well as what values and norms were produced and reproduced in these newspapers (Sandberg 2004). The study also presents examples of numerous dieting methods in the form of medicines, exercises and diets. The findings show, among other things, that overweight people were stigmatised, and unlike Banting, who wanted to help his fellow overweight brethren, even formerly overweight people were involved in the stigmatising. However, overweight men were not described as negatively as their female counterparts; instead, the former's overweightness and failings were overlooked. The newspapers thus did not show this tolerance towards these women, who, instead, were depicted as disgusting, unsuccessful and even detestable.

To sum up, there are some general and more descriptive international historical studies on dieting. Of the Swedish studies, only Nilsson's has a longer historical perspective, which will be expanded on here to include women. Moreover, a clearer power perspective on the historical development will be introduced. Zweiniger-Bargielowska's study is the only one with both a longer historical perspective and a power perspective. Like this study, it takes Michel Foucault's concept of biopower as its theoretical starting point.

Power over Life

For Foucault, power is, as we know, not something absolute that someone possesses but something exercised. And since it is always exercised within a relationship, power is per definition relational. This goes for important social relationships, such as between work and capital or between politicians and voters, as well as at a lower level, for example between men and women, parents and children or doctors and patients. We are all involved in countless relationships where power is exercised; we cannot opt out because it is always there. Since power is not a resource that resides in a certain position, it is difficult to narrow down and examine, but it can be acquired through the techniques employed when it is being exercised. Foucault distinguishes between sovereign power, disciplinary power and biopower. An important difference between sovereign power and biopower is that the latter focuses on preserving and protecting life instead of taking life. Nor does disciplinary power operate through public violence; however, unlike biopower, which targets large groups of people, the individual is the focus. It is the individual who is supervised, controlled and trained to be an obedient and compliant subject. These various forms of power occurred in different societies, but Foucault is not entirely clear whether they replaced each other. Plausible interpretations have been put forward, namely they complement each other by, among other things, operating at different societal levels (see, for example, Lilja and Vinterhagen 2014, Harwood 2009).

Typically for Foucault, he links power with the body, which is subjected to painful punishments, discipline and correction or self-disciplining in the form of training, dieting or plastic surgery. Because Foucault views power as productive, the body mirrors the power. More specifically, power is, as already mentioned, exercised through various kinds of techniques (acts) to which various technologies (knowledge) are connected. Foucault (1980: 52; as cited in Nilsson 2008) states that "it is not possible for power to be exercised without knowledge, it is impossible for knowledge not to engender power." In other words, power and knowledge are intrinsically linked and presuppose each other. However, power, according to Foucault, not only creates knowledge; it also produces individuals who are a product of power - how they see and perceive themselves, how they see others and how they are seen and understood by others. What gives the productivity of power its legitimacy is that, along with being prohibitive or inhibitory, it also has advantages for the individual: better health, living longer, etc. While steering the population towards becoming stronger and more capable, power produces something perceived as good. The greater freedom we enjoy today does not mean we are not steered but just differently. Power and freedom are co-constitutive.

Biopower, or power over life, is thus a productive power organised around norms that cause an individual's actions. People's lives and behaviours are analysed, controlled and governed by technologies and techniques. However, biopower's aims are not confined to the individual; it targets the whole of, or sometimes sections of, a population of, for example, a country, an organisation or an institution (Lilja and Vinterhagen 2014). Biopower is seldom exercised directly by the state but through actors such as doctors, dieticians and gym instructors, rather often as written exercise advice, healthy recipes or recommended check-ups. With the scientific knowledge and the administrative techniques these actors have developed, people's behaviours and lives are defined, controlled and governed. It is an organised influence on behaviour in relation to the objectives designed to improve, for example, our hygiene, level of health and lifespan (Coll 2013).

In this study, dieting is seen as a technique for regulating and steering people's behaviour and lives in a certain direction. The question is in which direction: is it their health, morality or something else?

Method and Source Material

The methodology used is a qualitative text analysis, that is to say, a systematic qualitative analysis of primary data collected from various types of texts (Denzin and Lincoln 2008). In this case, it is qualitative since conceptions, experiences and ideas expressed in the collated texts have been observed. Analysing qualitative data requires an understanding of how to make sense of texts so you can answer your research questions. Here the analysis has involved a careful reading and rereading of all the material in order to pinpoint the key themes of the texts in relation to the aim and research questions. In this process, I have first looked for the texts' patterns by identifying meaning units in the form of conceptions and ideas. The patterns were then aggregated into larger themes (Cresswell 2012).

To make sense of the findings, qualitative studies also require a pre-understanding of the examined phenomenon; that is the key to comprehension and interpretation (Denzin and Lincoln 2008). In this instance, the pre-understanding is previous research in the field and Foucault's concept of biopower.

This study takes a historical approach. As a historian, you cannot create your own data, so you have to analyse the available remnants. Here the source material comprises medical books, weekly magazines and a health magazine; together they span the end of the nineteenth century to the present day. The weekly magazines are *Idun*, whose target group was middle-class women, and *Året Runt*, a family magazine with a broad readership. *Idun* was published between 1887 and 1963, when it merged with another magazine. *Året Runt* was first launched in 1946 and is still in publication. Health magazines are a fairly new phenomenon, but the one included here is *Må bra*, which first hit the shelves in 1976. It has today the highest circulation figures of all health magazines in Sweden. Every issue of *Idun*, *Året Runt* and *Må bra* has been examined, starting with their first year of publication and then every fifth year.

Medical books were used as source material because of the medical profession's increasingly powerful position during this period. Moreover, it is through the pages of these books that the medical profession communicates with the public. I have examined all Swedish-language medical books that during this period discussed dieting. The weekly magazines and the health magazine are important source material for finding out what was being debated in Swedish society and in what way. The media convey values and attitudes and inform us of what is expected of us and what we can expect of others. The media can be said to act as a compass - rather often a moral one - that helps us navigate life. Nowadays we talk about mediated experiences, that is to say, ones we have acquired from the media and made into our own when we have no personal experience of the subject in question (Thompson 1995, Cotter 2001). So even if the reader has never been overweight or dieted, they can acquire through the media both experiences of the subject and an idea of what we can expect of people who are overweight and/or dieting.

The Findings

How Banting Was Received in Sweden

Banting, 65 years old when *Letter on Corpulence* was published, had, in his own words, long suffered from obesity, which had hugely affected his life. For example, he had been unable to take off his shoes, stoop or go down the steps normally; instead, he had to go down backwards, an exertion causing him to sweat profusely and become seriously out of breath. Moreover, when in train compartments and theatre auditoriums, he felt he terrified those around him. Preferring to stay at home than to be ridiculed and scorned, he became socially isolated and low-spirited: "Of all the parasites that affect humanity I do not know of, nor can I imagine, any more distressing than that of Obesity" (Banting 1864).

Banting had made numerous attempts to lose weight. He had tried to be physically active and had taken various kinds of baths believed to have weight-reducing effects. He had also sought the advice of many eminent physicians in this field, but without any luck. Help came from an unexpected quarter, from an ear, nose and throat specialist named William Harvey. Banting's hearing had deteriorated; hence, he consulted Harvey, who felt Banting's deafness was linked to his corpulence. He prescribed the diet that Banting reproduces in *Letter on*

Corpulence. Harvey's source of inspiration for this diet was a lecture he had heard the French physiologist Claude Bernard give on the role liver played in cases of diabetes. Bernard believed that, apart from secreting bile, the liver produced something that helped to break down sugar. Harvey began to examine how various kinds of food, including carbohydrates, affected the body (Gilman 2008). A reduction in carbohydrates was central to the diet Banting was on: carbohydrate foods, such as bread, sugar and potatoes, were eliminated as were beer and milk. Instead, his meals consisted principally of meat but also fish, vegetables as well as servings of wine, sherry or Madeira to accompany his lunches and dinners. Banting claimed that thanks to this diet he had lost in the first year 46 pounds (approx. 21 kilos). His health and his life in general had, also according to himself, considerably improved (Banting 1864, Gilman 2008).

In 1864, Banting's pamphlet, published the previous year, was the subject of a letter printed in a Swedish newspaper. The letter described, praised and criticised his method. The writer, who himself suffered from corpulence, had given Banting's diet a go for a month. Thanks to his endeavours, he felt "fleeter of foot" for the first time in twenty years, he no longer needed a siesta, he felt young again and had lost weight. But, he wondered, was it really possible to equate weight with health? Might the huge meat intake, combined with a reduced fat intake, create an unhealthy imbalance in the body? He also questioned the large quantities of alcohol that were part of the treatment; besides wine with every meal, he took a whisky nightcap. Could the health benefit that a weight reduction might bring compensate for what was verging on drunkenness (Post-och Inrikes Tidningar 1864)?

Two years later, in 1866, *Letter on Corpulence* was translated into Swedish by Edward Edholm, physician and member of the Royal Medical Board. In 1880, Edholm evaluated the method, which, in his opinion, had been well-received by the medical profession and the general public, both in Sweden and abroad. The question "Do you bant?" entered public discourse in England just like the verb "banta" did in Sweden. Edholm himself was wholly in favour of the method and wished to help spread the word. One thing Edholm very much liked to emphasise was that Banting's treatment was based on science, and he immersed himself in, and described in detail, the chemical and physiological processes involved when following the diet and which foods were suitable and unsuitable when doing so (Edholm 1880).

Why then, according to Edholm, should people diet? He listed many reasons, but the main ones were health-related. Overfatness, known as morbidly obese, was associated with a number of health risks, principally due to the fat deposits not just between the skin and the muscles but also in the inner muscles, arteries and organs. All the fat made it harder for the heart to pump the blood around the body, and with fat also pressed up into the thoracic cavity, the lungs were negatively affected as well. Consequently, the sufferer had palpitations, difficulty breathing and chest pressure as well as bad eyesight and hearing problems. In fact, no body part was unaffected. In the case of women, who, according to Edholm, were more inclined to be obese than men, even their reproductive organs were affected, which could cause hysteria and sterility. The prognosis was bleak for obese people:

> "Afflicted with these troublesome symptoms, overfat people live a wretched existence until a supervening disease or the rampancy of overfatness ends their suffering." (Edholm 1880: 42; my translation)

Besides health reasons, Edholm put forward other reasons why obese people should diet. One was aesthetic-related. For, according to Edholm, obese people's body parts were not in harmony. The slender and curved contours, which, in his opinion, were the foundations of health and beauty, were instead bulky and unsymmetrical. For example, the head was either flushed or, like the rest of the skin, "pale, flabby and puffy." With the throat covered by a thick layer of fat, the chest looked thinner than usual, and the lower abdomen protruded, which, in turn, affected the person's gait in an unflattering way (Edholm 1880). Edholm's notions about equating beauty with a harmonious body can be traced back to that period's natural philosophical notion of interconnectedness. Because a human being is made up of a number of parts, it could not be completely whole; the wholeness depended on the relationship between body parts. Being in harmony was a sign of both beauty and health, and disharmony the opposite (Ljunggren 1999). As for Edholm, who, of course, was a physician, the health reasons he gave for dieting were probably linked to the natural scientific ideals, but he shared the aesthetic notion held by the nature romanticists, namely obesity meant a departure from the ideal of the harmonious whole and was therefore ugly.

The other reasons Edholm gave for dieting were moral-related. He described three real-life cases designed to be inspiring and edifying: three overweight Swedish men who had lost weight thanks to Banting's treatment. In the case descriptions, he emphasises the effort of will and the firmness of character that had produced the successful results. On the other hand, he described those who failed to complete the treatment as weak people undeserving of compassion. They had only themselves to blame if they were ridiculed and parodied. The three men also demonstrated a scientifically critical approach to their dieting insofar as they tested various foods to see whether they put on or lost weight. They added a few glasses of beer a week, then weighed themselves; they slightly reduced the number of glasses and weighed themselves again (Edholm 1880). Taking a scientific approach to dieting appears almost as important as the actual weight reduction.

The three cases are interesting from another perspective. According to Edholm, he had chosen to publish these very cases because they were representative and served as good examples for those wanting to lose weight. Interestingly enough, they are all middle-aged, middle-class men. Besides, as shown above, women's specific obesity problems, Edholm makes no mention whatsoever of women. As for other social classes, he noted that farmers and craftsmen were thin even though they ate copious amounts due to the heavy work they did, and although the poor, working-class population's food was mainly, according to Banting's treatment, unsuitable, such as bread, potatoes, milk and porridge, this group rarely had overweight people (Edholm 1880).

Banting's treatment thus appears to have aroused the interest of middle-class Swedish men even though the diet came in for some criticism. Above all, health reasons, but also moral and aesthetic ones, were given for why people should diet. These reasons were to continue to be invoked. However, Edholm fails to give the perhaps most prominent reasons advanced by Banting himself: the psychosocial ones. For Banting, his corpulence had caused him to become isolated because of the ridicule received and the problems he had getting around outside. This will also be further examined later in the article.

"The Fat Person is digging their own Grave with their Teeth"

From having been a sign of good health, obesity, as already mentioned, began to gradually be viewed as a disease, meaning it was the physician's job to diagnose and treat the condition. At the turn of the twentieth century, physicians categorised obesity into two types based on a difference of degree: morbid obesity, known as overfatness, and non-morbid obesity, known as corpulence. Three criteria were used to ascertain whether a person suffered from morbid obesity. The first one concerned their appearance: that the person in question's body size and girth harmed the body's proportions. A large weight increase was only the second criterion, and the third was the functional changes of certain organs. To be diagnosed as overfat, the patient had to fulfil all three criteria (Pfannenstill 1901). However, gradually a person's weight in kilos, followed by their body mass index (BMI) and then their waist and belly size, determined whether they were overfat. For example, a person's BMI is used today as a criterion for determining whether they receive a gastric bypass (Lagerlöf 1958, Hasselgren 2013). Defining a person's condition does not appear to have been that easy. During the research period, the medical books interchangeably used the terms overfatness, obesity, morbid obesity and corpulence to describe the condition, with obesity being the most common.

Just as with Edholm, the medical profession held the view throughout the research period that obesity could cause numerous minor and serious complications. What changed over time, however, was how obesity was viewed, and, from a health perspective, what it caused. The medical books warned that an overweight person who did not tackle this and go on a diet could be afflicted with complaints, such as flat-footedness, articular cartilage damage in the knees and varicose veins, thus causing the person pain, which, in turn, restricted their mobility, as a result of which they could put on some extra kilos. Moreover, the patient could exhibit eczema-like changes in the rolls of fat but also serious diseases, such as heart problems, a stroke and cancer (Sjövall 1953, Dickstone 1948, Åberg, 2005, Hasselgren 2013). This was quite clearly linked to the many dangers of being overweight, or as one physician in the 1950s put it: "The fat person is digging their own grave with their teeth" (Sjövall 1953: 91; my translation).

At the beginning of the 1950s, at any rate, dieting had in Swedish society spread from middle-class men to other social classes and women. The media observed at the time that increased prosperity had resulted in the Swedish population getting fatter. A survey conducted by the Swedish Gallup Institute in 1951 found that 42 per cent of women felt they were fat, and 25 per cent were dieting. The numbers were lower for men, with 17 per cent feeling they needed to lose weight (Bolling 2005). Further proof that the beginning of the 1950s had seen a change is that ads for weight-gain preparations for thin people disappeared from the pages of the weekly magazines while ads for various slimming preparations increased. The United Kingdom witnessed a similar trend. With food becoming cheaper during the second half of the twentieth century, obesity spread down through the social hierarchy (Zweiniger-Bargielowska 2010).

During the 1950s, medical books began to even view obesity as a psychological problem with regard to why people were overweight and why it was so hard to diet. Food was described as comfort or a substitute for something missing in life. This comfort eating was deemed something women particularly did given that they spent a lot of time at home and therefore always had food at hand. It was "so easy to go into the pantry and take something delicious when she wants to brighten up her day a bit" (Ahltorp and Kühnel 1956: 373; my translation). Women were, however, also affected in another way, more precisely in their parental role: "Even if it is unclear where overfatness comes from, a specific reason can sometimes be given. It is the mother." The mothers taught their children to comfort eat by giving them food instead of encouragement or comfort (Sjövall 1953: 79; my translation). "She abreacts anxiety and excessive love, disappointments and difficulties by stuffing the child with food" (Karup 1956: 11; my translation). This specific responsibility for the child's future risk of becoming overweight continued until at least the end of the twentieth century. Overweight women posed a threat not only to themselves but also to future generations because they controlled children's eating habits.

Even in the weekly magazines, health risks frequently featured as a reason why people should diet. Until the 1970s, however, there were few articles on dieting. Prior to then, the dieting-related content was principally ads for various preparations and "Ask the Doctor" columns. The 1980s saw a marked increase in the number of articles on dieting, reaching its peak around the turn of the twenty-first century, when they featured in practically every issue. The health aspects of dieting resemble the ones presented in the medical books. Obesity was associated with health risks, such as high blood pressure, cardiac infarction, diabetes and back pain. People attested that physicians had even warned them that they would not live particularly long if they did not start to lose weight (see, for example, *Året Runt*, no. 24, 1960 & no. 17, 1976).

During the 1970s, celebrities started to be used to give dieting a boost. They were part of a specific dieting genre found in the weekly magazines. Characteristic of the genre was a person, preferably well known, but not necessarily the case, gaining the readers' sympathy by recounting how terrible their overweight life had been and how great they felt after losing weight. Along with "shedding" the kilos, they had lowered their blood pressure and lipids, their insulin levels had returned to normal, their heart was functioning better, and their knees had stopped aching. They went from living more or less in torment to feeling - after their diet - confident about the rest of their life. The transformation, however, did not happen by itself; instead, they had to fight and battle and be single-minded, which eventually paid off (see, for instance, *Året Runt*, no. 23, 1991 & no. 3, 2016).

Towards the end of the period, we can see, however, the argumentation for dieting is mainly no longer linked to the reasons. The focus now was on finding a suitable diet or form of exercise. Dieting appears to have become self-evident, something people did without external influence. Instead of encouraging dieting, the weekly magazines' task was now to offer a wide variety of individually tailored exercise programmes and diets.

Fat, Stupid and Costly

A powerful reason for dieting was therefore the health risks that obesity was believed to be associated with; however, there were also moral reasons. Dieting required so-called good characteristics, such as patience and willpower, and being corpulent indicated a lack of these. The corpulent person was, according to some physicians, totally to blame for their predicament, and therefore they could only tackle obesity if they had overcome weaknesses, such as a craving for pleasure and laziness (see, for example, Josefson and Tillgren 1928, Karup 1956, Pfannenstill 1901). In keeping with this, it was not uncommon for physicians to describe unsuccessful dieters as idlers and dullards: slowness in thinking and acting, hence the inability to take responsibility. Physicians poked fun, for example, at the fact that corpulent people could not understand why they were fat; they insisted that they lived on practically nothing, only eating a small potato and a little piece of meat every day, when, in actual fact, they consumed not insignificant amounts of biscuits, sweets and alcohol (see, for instance, Hallin 1889, Karup 1956). This disparaging approach to obese people is also evident in what they were called. Until at least the 1970s, Swedish medical books often referred to an obese person as "den fete" [the fat one] (Strömbäck 1971); obese people were consequently dehumanised and became their body weight.

Physicians also stated that obese people not only exhibited physical flabbiness, but intellectual lethargy was also a distinguishing characteristic of this group. For who had ever seen a fat genius? Just like "a strong-willed person and a person of action," the great intellectual geniuses were always on the thin side. The benevolence thought to characterise obese people was more down to lethargy than a specific character trait.

For an obese person, besides being associated with traits such as characterless and sluggishness, there was a moral aspect to why they should lose weight, namely the economy. Swedish insurance companies had compiled statistics on how much obesity cost the individual and society. In 1956, the Thule Insurance Company even published a special pamphlet on obesity, in which it was pointed out that obesity was not only the most common and dangerous disease but also the costliest in Sweden. The costs hit not only the obese individual (increased and wasteful food shopping) but also society increased hospital costs and lost working hours) (Karup 1956, Sjövall 1953). The weekly magazines, too, pointed out that there were twice as many obesity sufferers as sick-leavers and ill-health retirees, which, for example, in 1996, resulted in a fall in production that cost Swedish society SEK 6 billion (*Året Runt*, no. 51, 1996).

The moral aspects described above were applicable to both men and women, but one aspect only applied to women. From an obesity perspective, meal habits were seen as a problem, and because women did the cooking, they had to shoulder a lot of the blame for the unhealthy food traditions based on an overabundance of food that caused obesity: "eating too much, too often and too well" (Karup 1956: 10; my translation, Sjövall 1953). Just as bad was the plying of food that women subjected their family members and guests to at "destructive social events" in the form of dinners and coffee gatherings (Sjövall 1953: 125; my translation). These and the other aforementioned moral aspects were primarily presented in the medical books. The weekly magazines kept a much lower moral profile.

Fat and Ugly

Physicians thought overweight people were "uglified" in every possible way. If having ugly bodies was not enough, so were their movements, and their clothes did not sit right. Losing weight, however, made them thinner and, with that, more beautiful: their skin, eyes and teeth improved. Here women were especially singled out. Young women were thought to very much want to compete with each other for who was the prettiest and the most elegant, which meant being thin, but older women also wished to be attractive; however, this desire proved difficult to achieve when they were menopausal because women were inclined to put on weight. To stay thin and, with that, attractive, this group of women needed to clench their teeth and battle extremely hard (Brown 1951).

The medical profession was, however, split over whether people should lose weight to look good. On the one hand, the vanity of unmarried young women and widows was seen as a powerful stimulus for dieting, and on the other hand, it was not good that women were blindly conforming to the exaggerated thin beauty ideal conveyed by the film and fashion industries, the reason being this ideal was no more consistent with good health as obesity. The ideal was somewhere in between: people feel at their best when they are "amply filled out." Dieting, according to physicians, should primarily be to improve health and must not only be an aesthetical, fashion-oriented issue (Pfannenstill 1901, Dickstone 1948, Ahltorp and Kühnel 1956).

There were, however, shortcuts in the form of corsets, which replaced stays during the nineteenth century, but the former also met with criticism. As a counter to the impracticality of the corset and its detrimental effect on women's freedom and health, dress reform movements came into existence in the Western world; they felt that because men and women were born with the same motor ability, the latter's should not be restricted. In the decades around the turn of the twentieth century, the reform dress was an alternative to more fashion-oriented clothes; it included, along with underwear, both everyday clothes and more glamorous clothes. At first, mainly women who moved in intellectual and artistic circles wore these clothes, but, with time, they spread to other groups (Hammar and Rasmussen 2008).

The corset market must have been booming seeing as ads for this undergarment featured in practically every issue of the weekly magazines from the turn of the twentieth century to the 1970s, when this item of clothing disappeared in the wake of the 1968 movement. The arguments for wearing corsets were that they added to the comfort as well as to the pleasure and beauty: "Nothing is more comfortable or pleasurable than a well-fitting corset." There were plenty of corsets to choose from: high and low corsets, long- and short-waist corsets, corsets for broad hips and thin hips, corsets for slender women and "stout" women (Dean 1900); in fact, corsets for all shapes and sizes.

The sales argument that corsets hid women's overweight bodies, thus giving them beautiful figures, continued until the ads stopped running. A typical ad might urge women to think about their figure care because a neglected body made women older and uglier. In this context, figure care meant a Spirella corset could magically get rid of imperfections, make the wearer look younger and bring out "our most beautiful selves." The company even offered prospective customers home visits by a trained Spirella corsetière (*Idun-Veckojournalen*, no. 7, 1965).

In the weekly magazines, beauty was always given as a reason for dieting: whether it was only losing a few kilos before the start of the swimsuit season or shedding several kilos. People associated thinness with being attractive: being thin and beautiful for both someone else and yourself was deemed important. The beauty reasons for dieting principally had women as their target group. However, from the moment the weekly magazines started to write about dieting, they published before and after pictures of both men and women; in other words, a little picture of the person in question before their diet alongside a large picture of the end result. Here the reader could clearly see the difference. The large picture also emphasised the texts' message about both the health and the beauty transformation that had taken place (see, for example, *Må bra*, no. 2, 1991 & no. 2, 2011; *Året Runt*, no. 24, 1960 & no. 18, 1976).

Fat and Unhappy

The pre-weight-loss psychosocial problems that Banting said he had were also observed in Sweden. Obese people were thought to suffer "from their bodily defect." Overweight children were teased at school, and overweight girls were not asked to dance; instead, they had to sit and watch their thin counterparts take to the floor. Overweight boys were also thought to be affected. A particularly sensitive matter was if they were getting romantic and were met with derision and giggles. Even though the abusive treatment receded with time, the experiences, according to physicians, nevertheless stayed with them and were a reminder of their former clumsiness and ugliness. It was a myth that obesity was associated with cheerfulness; in actual fact, this group was so unhappy, it was overrepresented in the suicide statistics (Sjövall 1953).

The above description of obese people as terribly unhappy is from the 1950s, but it continued into the 2000s. Physicians highlighted at the time that these people were being treated with contempt and condescension in school and overlooked in the jobs market, and even the health-care system was totally prejudiced against obese people. The widespread view was "that fat people had themselves to blame for their predicament and should pull themselves together and tackle their problem" (Åberg 2005: 164; my translation). Physicians attested to the relief that came over successful dieters when their feelings of loneliness and insecurity dissipated when they no longer felt socially excluded. A 1980s study showed that successful dieters had twice as many friends as the control group; in other words, they had a better quality of life (Rössner 1988).

A better quality of life was highlighted also in the weekly magazines as a reason for dieting. Instead of sitting at home, feeling dissatisfied with themselves and not feeling seen, their self-confidence grew, and they gained a new life with new opportunities. Besides being fitter and happier, some had children, while others felt more appreciated and braver (see, for example, *Må bra*, no. 8, 1991 & no. 11, 2001; *Året Runt*, no. 31, 2016 & no. 4, 2001). Apart from improved health, a transformed life was another central theme of the aforementioned dieting genre. Such dieting stories typically began with the protagonist having been overweight already as a child; their excess weight gradually increased, leaving them feeling physically and mentally unwell. Time and again, they tried to lose weight but always failed. Eventually they found the method, with a capital M - usually a diet combined with physical activity - lost 30 to 40 kilos and became beautiful and happy and were full of confidence and belief in the future (see, for instance, *Året Runt*, no. 39, 1996; *Må bra*, no. 1, 2001). Despite setbacks and external and internal doubts, they nevertheless achieved their goal. Thanks to hard work and support from someone who believed in them, these unhappy ducklings were transformed into happy swans thanks to their dieting.

The Weight Attached to Dieting

This article has aimed to examine the history of Swedish dieting from the introduction in Sweden of William Banting’s weight loss treatment to the present day. The article took as its starting point the following question: What were the underlying reasons why people should lose weight? It is clear that Banting’s course of treatment kindled the interest of Swedish physicians, who, for instance, praised its scientific claims because it was based on contemporary physiological and medical knowledge. From a biopower perspective, the concept can be described as the technology to which the technique (dieting) was linked.

Already in his pamphlet, Banting put forward two sets of clear reasons (health and psychosocial) why obese people should diet. With obesity came a risk of numerous more or less serious complications. Moreover, obesity had a stigmatising effect. These reasons continued to be invoked throughout the period and were joined by two other sets of reasons: aesthetic and moral; they appeared as early as the end of the nineteenth century and have also been cited ever since. All four sets of reasons appeared, to a lesser or greater extent, in the medical books and the weekly magazines. The aesthetical reasons featured most prominently in the weekly magazines, whereas, naturally enough, the medical books devoted most space to health reasons. When discussing these two sets of reasons, physicians often, however, strayed onto moral reasons. For instance, they noted the lethargy and inability to take responsibility that characterised obese people incapable of losing weight, or they used a condescending tone towards those who prioritised the superficial beauty ideal over health reasons. These people were dieting for the wrong reasons. The moralising tone was thus considerably more prominent in the medical books than in the weekly magazines.

The derision and insults obese people endured, making their lives miserable because they could not participate in society in the same way as thin people, were highlighted as the psychosocial reason. Dieting was here portrayed, mostly in the weekly magazines but also in the medical books, as nothing short of a miracle. If only you became thin, your life would change and you would be happy. There are so many of these dieting stories in the weekly magazines that they constitute their own genre. The stories follow the same structure: the dieters' journey from misery to success contains themes, such as misfortune, struggle, health benefits, beauty, social acceptance and happiness. Considering how often the concept was repeated, the readers must have been hugely interested in acquainting themselves with these themes and their moral that the suffering caused by taking tricky and difficult paths can be turned into happiness. Sandberg (2004), too, in her aforementioned study, drew attention to the dieting stories. She calls them success stories that get their dramaturgy from the fairy tale where the prince and princess, after encountering many trials and tribulations, get married in the end and live happily ever after. In these stories, it is, however, principally the beauty reasons that are used for why women should diet, whereas for men, it is the health reasons. Sandberg's findings correspond to this study's regarding the reasons invoked for why women should diet, whereas the health reasons apply to both genders. Moreover, for both men and women, the psychosocial reasons are embedded in a similar dramaturgy.

Narration and stories are a central cultural phenomenon of the history of mankind and have filled many important functions in our lives and our development. Stories have a purpose - they are not told and retold by accident (Bamberg 2011). Because they speak to our emotions, stories can penetrate and affect us differently than a factual text, such as a medical book, and can therefore have a greater impact. Besides the sales of single copies of weekly magazines, stories are, from a biopower perspective, an effective technique for steering the individual towards the desired behaviour of not eating excessively and maintaining their normal weight. This is because biopower not only targets people's reason and rationality but also engages their emotions (Coll 2013), a longing to be, above all, thin and, with that, to belong but also to be in good health.

Dieting, in gender terms, went from a male preserve to something that women increasingly did. As previously mentioned, one difference was, however, that the view was taken that principally women should diet for beauty reasons, whereas for men, it was mainly for health reasons. This became ever clearer the longer time went on. At the beginning of the twentieth century, the aesthetical reasons even applied to men, but these disappeared over time. Moreover, women were depicted as governed more by their emotions than men; they comfort ate and taught their children to do the same. Further, they were more receptive to, and more easily swayed by, the beauty ideal.

Throughout the period, there were thus aesthetical, health, psychosocial and moral reasons why people should diet. What changed was that particularly the weekly magazines used less explicitly the reasons to support their argumentation. They appear to be a given, and dieting, or trying to diet, is something you simply do, a matter of course. Foucault's concept of governmentality serves here to enlighten us. Governmentality, or governmental rationality, as it is sometimes referred to, is, according to Foucault, something that acts as a complement to disciplinary power and biopower. An important starting point for this perspective is that the individual will ideally make the right choice and thus control themselves so it benefits both them and society (Nilsson 2008). Self-disciplining the body is central to this. That people act on their own volition in accordance with what they deem good and right for them; to find their own ways of improving their lives, whether it be exercising, healthy eating or maintaining weight. In dieting terms, this meant knowing why it was not good to be overweight and acting accordingly. Should a person fail in their attempt or doubt their own ability, physicians and weekly magazines helped out with supportive and inspirational methods, diets and success stories. However, biopower, often in the form of new research findings, was always in the background to, if necessary, warn of the damaging impact of obesity on the individual and society: autonomy and individual responsibility on the one hand and regulating and boundary setting on the other.

To conclude, there are, with all forms of exercising power, whether it be through public corporal punishment, disciplining or biopower, people who have to pay a high price. The fact cannot be ignored that the new thin norm, established at the beginning of the twentieth century, created a new stigmatised group of people who, for various reasons, could not live up to the norm. Previous research has shown the shame, isolation and scorn that this group has endured. It is clear that, above all, medical books, but also weekly magazines, have very much played a part in this by depicting overweight people as sick, stupid, ugly and unhappy.

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