

Brief Health Promotion Intervention in Urgent Treatment Centre: Randomised Controlled Trial.

Subtitle- A pragmatic Randomised Controlled Trial to explore efficacy and effectiveness of initial or delayed brief health promotion intervention (smoking cessation, weight management and alcohol intervention) among 16-75 year old clients presenting to an urgent treatment walk in centre for minor injury and illness, a U.K. study.

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ABSTRACT:

UK has a high rate of non-accidental premature deaths and epidemic of long term conditions specifically heart disease, cancers, type 2 diabetes, and respiratory diseases, strongly linked to preventable unhealthy lifestyle behaviours primarily, smoking, physical inactivity, diet and alcohol misuse. Locally in Portsmouth, nearly one quarter (23%) of adults are regular smokers, 33% overuse alcohol and 58% are overweight and obese. Opportunistic brief health promotion is needed in the city and it has been found feasible, acceptable and effective however it has not been addressed in contemporary Urgent Treatment walk in Centres for Minor Injury/Illness.

Objectives To determine efficacy and effectiveness of opportunistic brief health promotion intervention (smoking, overweight/obesity and overuse of alcohol) in clients aged 16-75 attending for an injury or illness.

Design Parallel randomised controlled trial with 204 participants in two study arms received opportunistic brief healthy conversation, assessment to change behaviour, offer of referral to the Wellbeing service and written leaflet within 20 minutes of arrival or up to 4 hours of

waiting for full consultation with a nurse practitioner in Portsmouth, U.K. Study was conducted between July and December 2015.

Primary outcome: Number of referrals to the Wellbeing service.

Secondary outcome: Time taken for intervention.

Results: 204 participants were enrolled, mean age 40 (SD 14.08), male 48% and female 52%, 13% were smokers, 47% were overweight and obese, 1% overused alcohol and 49% were a combination of two or all three of the unhealthy behaviours.

There were 22 referrals (11%) made, equal in both study arms. The odds of accepting a referral when offered was OR 1, (CI .413- 2.423), indicating that there is no difference between initial or delayed intervention. Primary outcome was negative however over 80% of the participants were receptive to brief health promotion intervention, they accepted offer of referral for future use and would inform friends, colleagues and family.

Conclusion: Initial and delayed brief opportunistic brief intervention suggests that it is feasible, acceptable, potentially effective and may prompt behaviour modification. It is recommended that paramedic and nursing practitioners in these environments utilise opportunities to engage presenting adults in brief health promotion as part of consultation. Health promotion training, support and pragmatic policies are needed to help clinicians to integrate health promotion into practice.

Study limitations and strengths

- Validity was ensured by working with the academic supervisors and the University statistician who helped with data analysis.
- The study had very limited harm outside the 2-5 minutes it took to engage in healthy conversation. There were more benefits as over 80% of the participants were receptive to the intervention.
- Methodology ensured that every adult presenting client with unhealthy behaviour had the opportunity to be invited to the study.
- The outcome did not meet statistical threshold however even one client referred for behaviour change can make a difference to the burden of health.

What is known about the subject:

Walk in centres and minor injury/illness units and urgent care/treatment centres are well used by the public.

These units mostly are a walk in service with few prescheduled booked appointment.

Little is known about health promotion delivery in these centres.

Brief health promotion is effective and feasible.

What the study adds:

Clients present for an injury or illness however will openly discuss unhealthy behaviour.

Participants were not deterred from attending again following brief health promotion, offer of referral and written leaflet.

Participants would use the brief health promotion service in future.

Participants would inform family, friends and colleagues about the health promotion service.

Impact on clinical practice

Training and policies are needed to help nurse and paramedic practitioners to integrate brief health promotion into routine consultation.

Employers are encouraged to work with commissioners to enable brief health promotion to be successful (namely, audits, time, training, integrating brief health promotion into consultation).

Routine brief health promotion intervention as part of clinical consultation will contribute to the reduction of early onset of long term conditions, premature non accidental mortality and rates of unhealthy behaviour.

Introduction

In 2012, over 15 million people lived with one or more long term conditions, yet in 2018 over 15.4 million people in England live with a long term condition, with over 2.9 million living with more than one long term condition; a further increase to 18 million is expected by 2025 (King's Fund, 2018). Long term conditions specifically coronary heart disease, cancer, respiratory diseases and type II diabetes are major causes of premature no-accidental deaths that are strongly linked to preventable health behaviours primarily smoking, obesity, physical inactivity and misuse of alcohol. Smoking is the leading cause of preventable disease and deaths in England (Department of Health, 2014a).

Locally, Portsmouth, one of the most deprived district authorities has a high rate of long term conditions attributed to unhealthy behaviours. Life expectancy is 78 years for male and 82 years for female compared to 79 years for male and 83 years for female in England. Heart disease (34%) is the leading cause of non accidental premature deaths in the city followed by cancer (28%) and respiratory disease (14%). Over two thirds (69%) of the population of Portsmouth are aged between 15 and 65. Nearly one quarter (23%) of adults are regular smokers, 33% overuse alcohol and 58% are overweight and obese compared to 17% of smokers, 7% alcohol overuse and 63% overweight England average (Portsmouth City Council, 2017). These acquired preventable unhealthy behaviours are a major cause of the burden of health, reduced quality of life, early onset of long-term conditions and non-accidental premature deaths in the city; concerted efforts are needed to eradicate unhealthy behaviours through health promotion.

Traditionally in this country, the role of health promotion is a pre-booked, paid service provided within general practice (GP), namely, smoking cessation, vaccination and many more, delivered by the practice nurse (Department of Health, 2014b). It is argued that these services

have been centred around a medical model of curative services based on reactive rather than proactive mechanism and remuneration for providing services, evident in the scheduled recall of patients namely men over 40 years clinics (Ampt, Amoroso& Harris, 2009). Further, pre-booked scheduled GP appointments are not sufficient to reduce the burden of unhealthy behaviours; additional access to health promotion initiatives is needed. Health promotion, a process of enabling individuals and communities to be healthy, has been in existence as early as 2000 BC (Baggott, 2000). It has evolved over time relative to developing technology, public demands, advances in science and changes in health service provision. Health promotion is the science and art of helping people to change their lifestyle, to move toward a state of optimal health, it is the process of enabling people to increase control, to improve their health, to reach a state of complete physical, mental and social well-being, identify and realize aspirations to satisfy needs and to change or cope with the environment (World Health Organisation, 1986). There are variations of health promotion, nevertheless, there is no current consistent strategic health promotion approach. Consequently, different models and approaches are being used *“in an uncoordinated way”*; *“identifying effective approaches and strategies will benefit the population as a whole, enable more effectiveness and more health benefits.”* (National Institute for Care and Excellence, 2007:1).

This paper looks at opportunistic brief health promotion to behaviour change to address unhealthy behaviour in walk in centres, minor injury and illness/ailment units and urgent care centres. Brief health promotion intervention is as a structured way to deliver advice that can take different methods of delivery, including brief advice by proactively raising awareness, assessing for readiness to engage, motivational interviewing and opportunistic contact and arranging for behaviour change. Brief intervention means succinct, concise, non-confrontational, non- judgmental motivation (NHS Glasgow and Clyde, 2015). The intervention can be as short as a few seconds, short-term, brief, minimal or long term, using different material namely posters, media, leaflets, verbal or computer, all aimed at motivating a client towards healthier behaviour (National Health and Care Excellence, 2010). Brief intervention provides the opportunity for clinicians to increase positive outcomes by using these modalities independently, as stand-alone interventions or as additions to other forms of treatment in a variety of settings (NICE, 2015b). It is recommended that it should not be longer than 10 minutes and according to Rockville (1999) the length of a session can range from 5 to 10 minutes, delivered by a wide range of professionals.

Innovations to improve access to primary care, to modernize the NHS and offer patients more choice led the government to open over 230 walk in centers, and minor injury/illness units in 2000 to manage minor illness and injuries with no scheduled appointments and with extended opening hours including weekends (Department of Health, 2009). These centres, now

referred to as Urgent Care Centres are highly regarded by most of the patients that use them (Pope, Chalder, Moore, et al 2005), and have proven to increase accessibility. They are successful and have been successfully managed by nurse practitioners (Hoskins, 2011, Desborough, Forrest& Parker, 2012). However, thus far there is little literature on the delivery of lifestyle advice, health promotion, information and support, a key feature set by the Department of Health for walk in centres (WIC), and minor injury/illness units (MIU) when they were proposed (Department of Health, 1999).

A pilot study aimed to report the prevalence of hazardous drinking in patients attending a minor injury unit (Patton& Vohra, 2013). The authors observed that of the 70% of clients that presented at emergency department, 20% could be seen in a minor injury unit and more likely to get offered health related advice and information by emergency nurse practitioners. Over 1000 clients were approached over four weeks and 192 consented to taking part in the study. The authors reported that clients were receptive to the intervention on alcohol intervention however they declined referral services as they did not link their injury or illness to alcohol. Four, of twenty-four emergency nurse practitioners completed a questionnaire, they reported that MIU was not the right place for health promotion, they, the nurses did not have time, and neither did they want to upset presenting clients by asking about alcohol. The authors concluded that minor injury unit could be used for alcohol intervention (Patton& Vohra, 2013).

Due to limited literature on health promotion in minor injury/illness units, walk in centres and urgent care centres, search was further conducted on opportunistic brief health promotion in similar settings. A randomised controlled trial to demonstrate feasibility and proof of principle of an innovative smoking cessation intervention in women that attended for routine cervical screening was found effective (Hall, Reid, Ukoumunne et al, 2013). Data collection took place over a year, inviting women that smoked at least 1 cigarette a day and understood spoken English language. The authors compared brief smoking cessation advice and written information to no advice at all. The sample consisted of 121 participants in each arm who were subsequently followed up at two and ten weeks. The intervention group had higher intention to stop smoking at 2 weeks follow up (mean difference 0.51, CI 0.02-1.03, P=0.06) and at 10 weeks the intention to quit was still high (0.80, CI 0.10-1.50, p= 0.03). Consultations took a mean time of 4.98 minutes (95% CI: 3.69 - 6.27; p <0.001) longer than the control arm. The authors report that the intervention took longer than anticipated however this was because of interest from participants. The authors concluded that participants were not put off by screening and brief intervention when they had only attended for a cervical smear test. It was concluded that brief smoking cessation advice given as part of cervical screening is acceptable, feasible and potentially effective.

Primary health care nurses have many opportunities for health promotion nonetheless there is lack of training and skills to engage in such interventions (Lock, Kaner, Lamont et al, 2002). Recommendations were made for training of nurses to accommodate reforms in health service strategies, however, years later the same author observed that not much had changed. It was concluded that generalist nurses continue to follow a prescriptive traditional health education model as nurses are focused on routine and completing their tasks. It was suggested that nurses must recognise health promoting opportunities, plan, conduct and make health promotion integral to practice (Whitehead, 2005).

Nonetheless, nurses are still not clear and have not demonstrated reforms in health promotion delivery. There is an opportunity for nurse and paramedic practitioners in walk in centres, minor injury/illness units and urgent care centres to offer brief health promotion to reduce the burden of ill-health from avoidable unhealthy behaviour. Brief health promotion intervention is succinct, concise, and does not cause delays in consultation however it requires consistency and integration to make it part of practice.

- **Gap in knowledge**

The health of people of Portsmouth is stated to be worse than England average as '69%' of the population is between the age of 15 and 64, there is over double the average of young people (20-24) and over 70% live with unhealthy behaviour in the city from smoking, overuse of alcohol, poor diet and exercise leading to being overweight and obesity (Portsmouth City Council, 2017). The local urgent treatment walk in centre for minor injury and illness unit has an average of 180 adults presenting per day with an average of two to two and a half hours waiting time for consultation by a nurse or paramedic practitioner; there is an opportunity for brief health promotion delivery.

- **Aims and objectives**

To determine efficacy and effectiveness of introducing brief health promotion services (smoking cessation, alcohol intervention and weight management) by screening for smoking, alcohol overuse and weight/height, engaging in healthy conversation, assessing and arranging for behaviour modification at the local Wellbeing service and written information when clients presented for a minor injury and illness.

- **Study Hypothesis**

The hypothesis was based on the fact that if presenting adult clients had early brief health promotion intervention (within 20 minutes of arrival) and written information during initial

consultation, they had time to think, reflect and read material while they waited for full consultation and thus more likely to accept the offer of referral to the Wellbeing service during full consultation which can be anything up to 4 hours with an average waiting time of 2 to 2.5 hours.

*The null hypothesis (H_0) is that there is no difference in the proportion of participants that seek referral to the Wellbeing service between initial intervention (within 20 minutes of arrival) and delayed intervention (within 4 hours of arrival).

*The alternative hypothesis (H_i) is that a difference exists between clients that receive initial intervention compared to clients that receive delayed intervention.

- **Ethical Approval**

A professional doctorate research proposal was successfully peer reviewed at the University of Portsmouth, School of Health Sciences and Social Work. An Integrated Research Application System (IRAS) form was completed and submitted online in June 2015, together with the required supporting documentation with consequent generation of a REC reference number 15/NI/0123. The study was deemed lower risk, suitable for Proportionate Review. NHS Ethical approval was granted in June 2015. Clinical governance was obtained from Care UK as the employer and study site, and the local CCG for Portsmouth, Fareham, Gosport and South Eastern Hampshire Clinical Commissioning Group as the commissioners of the services of the Treatment centre. Randomised controlled trial was retrospectively registered in July 2017 with Biomedical Central (BMC) and published on the ISRCTN website with a generated registration number ISRCTN77954447.

Ethical responsibilities and legal rights have to be considered in all research, namely, protection, confidentiality and ensuring that the study is not traceable back to participants. The study aimed to compare efficacy of delayed or initial brief health promotion intervention. Beneficence was seen as the core principle in this study. The study was deemed low risk as the intervention exclusively required self-reported screening, a brief health talk, offering referral and handing out health and well-being written information.

Participants were made aware and invited to take part in the study on a displayed electronic board, invitation posters on the doors, reception desk, written participant information leaflet, and verbally. All clients were given a patient information leaflet when they approached the reception desk for booking in. Clients than had 20 minutes to go through the leaflet while they waited for initial assessment.

- **Design**

This was a single pragmatic parallel randomised controlled trial (RCT) with 204 participants aged between 16 and 75 years that reported unhealthy behaviour on the mandatory booking in form. Three questions were added to the mandatory booking in form 1) do you smoke, 2) alcohol intake per week, and 3) what is your weight and height. Clients presented to St Mary's NHS Urgent Treatment Centre, walk in for minor injury or illness in Portsmouth, U.K.

- **Patient and public involvement**

Engage, the University of Portsmouth Public and Patient involvement group was approached for their input in the design of the study. The invitation poster, participant information leaflet and participant questionnaire were emailed to them. Suggestions, advice and minor changes were recommended by five members and were addressed on the client questionnaire. The study protocol was registered, approved and published on INVOLVE website.

- **Participants**

Clients presented to the urgent treatment walk in centre for a minor injury or illness. They completed a mandatory booking-in form. Three questions were added to the mandatory booking in form for all clients aged from 16 to 75 years (do you smoke, what is your weekly alcohol, what is your weight and height). Based on the three questions, a practitioner was able to assume unhealthy behaviour and invite clients to the randomised controlled trial during initial assessment.

- **Inclusion criteria:**

Presenting clients between 16-75 years of age with self-reported smoking, BMI of 25 and over, alcohol use over 28 units at the time (units were recently reduced to 14).

The age of 75 years was selected as a cut off point as this was a feasibility study and also because at the age of 75 there is evidence that some people already live with one or more long- term conditions.

Literate,

English speaking clients.

Clients within the local city (PO1- PO6 postcode as they could be referred to the Wellbeing service).

- **Exclusion criteria:**

Emergencies namely cardiac conditions, severe asthma.

Mental ill-health,

Holiday makers,

Clients under secondary health care (namely cancer, diabetes, under care).

- **Study setting**

Clients “walk- in” for a number of different ailments and injuries, for management by a nurse or paramedic practitioner with no scheduled appointments. The centre, in the heart of the city, accessible via public, private transport and walking is open daily from 07:30 to 22:00. An average of 180 clients present per day of whom over a third are (70%) are aged between 16 and 75. A profile study was performed a month prior for proof of concept. Data collected over four weeks for the profile study revealed that 76% of the adults that present have unhealthy behaviour from smoking, overweight/obesity and overuse of alcohol. There is a need for brief health promotion.

Clients present to the reception desk where they are given a mandatory booking in form. Three additional questions were added to this form: do you smoke, what is your alcohol intake per week, what is your weight and height? Clients get called by a practitioner after they have been booked on ADAstra medical software for mandatory initial assessment (initial consultation) within 20 minutes of arrival. Following initial consultation, clients sit back in the waiting room to wait for a full consultation (delayed consultation) which can be anything from twenty minutes to over four hours, average waiting time is two to two and a half hours.

- **Study Interventions and study protocol**

Arm A- screening, brief behaviour healthy conversation, assess for readiness to change behaviour, offer of referral to Wellbeing service and health promotion leaflet within 20 minutes of arrival.

Arm B- no intervention at initial consultation, screening, brief behaviour healthy conversation, assess for readiness to change behaviour, offer of referral to Wellbeing service and health promotion leaflet at delayed full consultation. This can be anything from 20-240 minutes from initial assessment.

Health promotion intervention was the same, the difference was the timing, it was either within 20 minutes of arrival or between 20-240 minutes during full consultation.

It is recognised that clients and nurses are individuals however training was provided on a standardised version of brief health promotion, the 4A’s (ask, advice, assist, arrange), a brief health conversation on health benefit of behaviour change and hardcopy leaflet. Leaflets were designed on the effects of unhealthy behaviour, benefits of modifying behaviour and available free services.

- **Primary Outcome: - Number of referrals to the Wellbeing Service.**

Clients that accepted referral to the Wellbeing service where they would get further support. Because of the set up of this unit, one off presentation of clients with no follow up, Referrals was chosen as the primary outcome.

- **Secondary Outcome:**

Time taken for intervention and acceptability of intervention.

- **Sample size**

The sample size was calculated based on two studies that referred to referral as their primary outcome; their findings were between “30% and 33%” (D’Onofrio& Degutis, 2010, Crone, Johnston, Gidlow et al, 2008). This was considered, and we aimed for a 40% referral rate. Based on the set factors, the minimum total sample size was calculated to be 190 participants (95 in each arm) to achieve the primary objective, 7% was added to make up for anticipated attrition, increasing the sample size to 204, that is 102 in each arm, practical in the unit that sees over 180 adults per day.

- **Randomisation, sequence generation and recruitment**

Due to a nationally shared medical computer system ADAstra, random online numbers could not be generated. Manual letters (A, B) were generated by chief investigator, written in a permanent marker on A4 sheets, individually folded, inserted in white envelopes and sealed, to conceal both participant and nurse practitioner. A combination of simple random sampling method and quota sampling was utilised to select 16 to 75 year olds and clients that had self-reported unhealthy behaviour based on the mandatory booking in form.

All adult clients despite unhealthy behaviour were given a participant information leaflet by reception staff on arrival, to enable time to read, consider and decide to take part in the study, while waiting to be called by a practitioner for initial consultation. A poster was available in the waiting room to inform clients about the study.

- **Allocation, blinding, concealment and implementation**

At initial consultation the practitioner went through the mandatory booking in form and if patient fell within the inclusion criteria, they were invited to the study, questions were addressed, and consent was signed. Based on these criteria and following signed consent, the nurse practitioner took the next sealed selected envelope in the randomisation box. Both nurse and participant were concealed from study arm up to the point of opening a sealed envelope. Arm A received immediate intervention at initial consultation while Arm B were advised to wait back

in the waiting room for full consultation by a practitioner where they also had their brief health promotion intervention.

- **Statistical methods and data analysis**

An intention to treat was used as part of the primary analysis, chosen as it provides an unbiased estimate of the intervention effect and reflects much closer what occurs in practice. Data cleansing and analysis was performed on IBM SPSS version 22. Descriptive statistics were performed and reported as numbers and percentages for categorical data and as means and (SD) for continuous data. Pearson’s Chi-Square test were used for categorical data and regression for binary variables to determine statistical differences between study characteristics. For continuous data, ANOVA was run to test statistical differences between groups and Odds ratio was run to measure associations. Variables were merely based on gender, age, unhealthy behaviour and referral to the Wellbeing service.

- **Results**

Around 35402 clients of all ages presented to the unit in the 6 months that data collection took place, of whom 70% (21236) were aged between 16 and 75 of age. Nurse practitioners were requested to complete a research checklist for every client between 16 and 75.

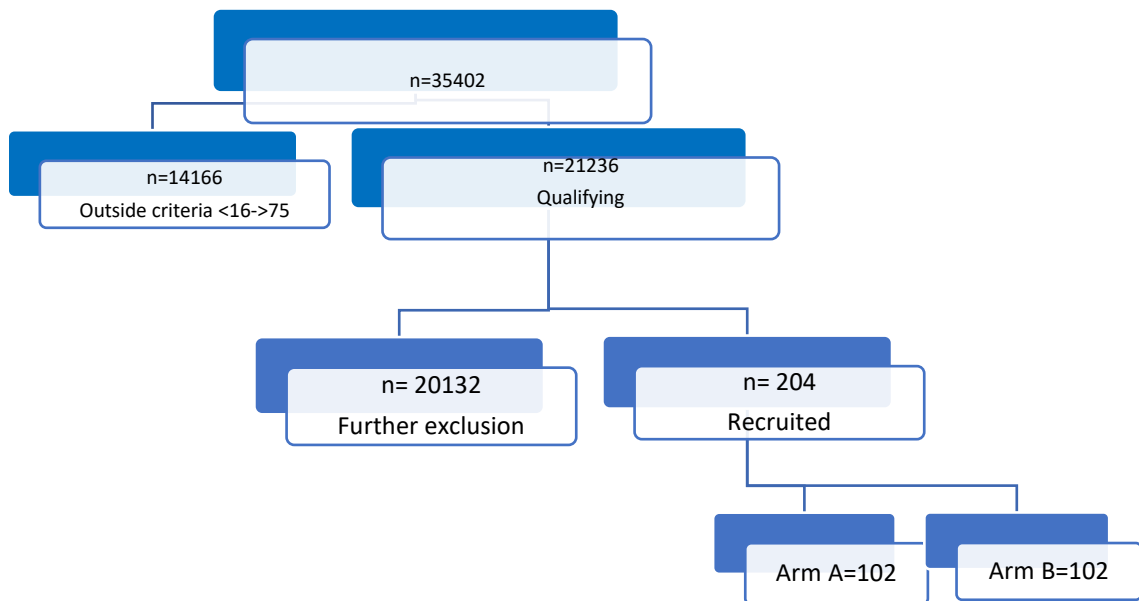


Figure1. Flow chart of client flow and participant disposition.

Exclusions

Of 21236 clients between the ages of 16 and 75, 32% (6836) did not have unhealthy behaviour or fall within the inclusion criteria thus they were excluded based on the mandatory booking in form. Nurse practitioners were trained to complete a mandatory checklist form for every client

that was 16 to 75 regardless of unhealthy behaviour. It is unfortunate that of the 21236 clients that fell within our study population only 1104 forms were completed and could be analysed. Nurse practitioners only concentrated on the 204 participants that were required for the study. Nurse practitioners did not complete all 21236 research forms, they only completed 1104.

From 1104 clients, 82% (900) were excluded from the study for various reasons. Based on the completed checklists, 38% (424) clients were “healthy”, thus, excluded from the study, 1% (16) clients were excluded because they were either deaf, blind or there was language barrier. Two percent (14) were further excluded as they were holiday- makers, eight clients were excluded as emergencies and seven clients were excluded as they had mental ill-health.

Nurse practitioners recorded that they overlooked to invite 67 clients of whom 50% had unhealthy behaviour. Six clients were excluded as they were redirected at initial consultation, 2% (23) were already under secondary care thus within exclusion criteria. Seventy clients were treated at immediate consultation. A further 7% (259) of the clients declined to take part in the study, feedback from nurse practitioners reported that clients declined to take part because they thought that there was another task they had to perform, somewhere else to go to or they had to return for intervention and they stated that they (the nurses) did not have time to explain to clients that there was no other intervention involved. Fifty nine percent (154) of 259 clients that declined to participate had unhealthy lifestyle choices. One percent (6) were excluded as they had not been given a participant information leaflet by reception staff. The exclusion left 18% (204) participants that were successfully recruited to the study with completed paperwork.

All recruited participants completed the trial which ended at the end of the consultation with a practitioner, they were all accounted for at the end of the study.

Table 1 characteristic of participants and results

Characteristics and variables	A (n102)	B (n102)	Total (n204)
Age mean 40 (SD 14.8)	37 (14.1)	42 (15.3)	40 (14.8)
Gender			
Male 101	51 (50%)	50 (49%)	101 (49.5%)
Female 103	51 (50%)	52 (51%)	103 (50.4%)
Smoker Male 31, female 20	25 (25%)	26 (25%)	51 (25%)
BMI 25 and over	41 (40%)	48 (47%)	89 (44%)
Overweight: male 30, female 23	26 (25%)	27 (26%)	53 (26%)
Obese: male 15, female 21	15 (15%)	21 (21%)	36 (18%)
Alcohol Male 3, female 1	4 (4%)	0 (0%)	4 (2%)
Smoker& BMI male 9, female 31	27 (26%)	13 (13%)	40 (20%)
Smoker and Alcohol male 4, female 7	2 (2%)	9 (9%)	11 (5%)
Weight and Alcohol male 1, female 2	0 (0%)	3 (3%)	3 (1%)
All 3- risk behaviours male 3	3 (3%)	0 (0%)	3 (1%)
Risk Not specified male 1, female 3	0 (0%)	3 (3%)	3 (1%)
Total	102 (50%)	102 (50)	204 (100%)
NOT offered referral	1 (1%)	1 (1%)	2 (1%)
NOT accepted help	42 (41%)	30 (29%)	72 (35%)

Accepted male 60, female 69	60 (59%)	70 (69%)	130 (64%)
Referral male 9, female 13	11 (11%)	11 (11%)	22 (11%)

Of the 204 recruited participants, 104 in each arm, the mean age was 39.9 (\pm SD14.8), of whom 103 (50.5%) were female. The mean age in each group was tested using the independent t-test showing the initial group mean age to be 38 years (SD14.06), compared to 42 years (SD 15.31) in the delayed group, suggesting that there is a higher mean age in the delayed group.

Pearson's Chi square was run to explore associations between gender and unhealthy behaviour. Thirty one percent male (31) smoked compared to 19% (20) of female smokers. There was an increase in female smoking rates when smoking was combined with high body mass index (BMI) and or alcohol. There were more females with unhealthy behaviour, seventy eight percent (31) when smoking was combined with high BMI. Three percent male (3) were found to consume alcohol over the recommended limits, compared to one percent female (1), while, 10% male (9), continued to have higher high risk behaviour when alcohol was explored with high BMI and smoking compared to 6% (6) female. There were forty nine percent (26) overweight participants in Arm A, compared to 51% (27) in Arm B while 42% (15) in Arm A were obese compared to 58% (21) in Arm B. Males were found to have a higher rate of unhealthy behaviour including being overweight at fifty seven percent (30) compared to forty three percent (23) female, however, there was a wider range of obesity among females with fifty eight percent (21) found to be obese compared to forty two percent (15) male.

Being overweight and or obese was a major presentation in this sample with forty four percent (89) overweight and obese. This was excluding 23% (46) BMI combined with other unhealthy behaviours, totalling 65% (135) overweight and obese participants in this sample.

Multiple logistic regression was used to predict the probability of outcome improvement adjusting for the effect of age and gender. There was no statistical significant association with age (CI -.003-.003 p=.995) or gender (CI .601-3.625 p=.400) of participants.

A similar number of referrals is observed in both arm (11% and 11%), contrary to the null hypothesis, there was no statistical significant differences between the groups. Referrals were found to be more between 30-49 age group (59%) and among female.

Based on the number of referrals among the groups, the null hypothesis was rejected, there was no difference in the referral rate of the clients that were offered immediate intervention and the group that received delayed intervention.

Over 65% of the participants accepted the offer of referral however declined referral at the time of the randomised controlled trial.

As a secondary outcome, it was aimed to explore how long it took for the nurse practitioner and the participant to engage in the healthy conversation. Most of the randomised checklist forms were not completed by the nurse practitioners. Based on the times that were recorded, the mean time taken to engage in a healthy conversation was 4 minutes (SD 2.85), the mode was 2 minutes.

Discussion

Participants were randomised to receive similar interventions (engage in healthy conversation, assess for readiness to change, offer of referral to behaviour modification services and written leaflets) on the specific unhealthy behaviour or combination of behaviours. The null hypothesis was rejected. It was observed that there was a similar number of referrals among the study arms, however 65% of the participants accepted the intervention. The acceptability of the intervention suggests that it is feasible to screen, engage in healthy conversations, provide leaflets and offer referral to clients that are in the contemplation stage and to provide verbal and written information to those that are still in pre-contemplation stages. The findings are similar to a randomised controlled trial conducted in emergency department, the study concluded that their endpoints were negative, however minimal health promotion intervention was just as effective as enhanced intervention, the determinant is the client (Bernstein, Bijur, Cooperman et al, 2011). The findings are contrary to the views of nurses in a minor injury unit who reported that MIU was not the place for health promotion, "patients will respond negatively to being asked about their alcohol intake" (Patton & Vohra, 2013), none of the clients withdrew from the study or shared negative views in or study.

A randomised controlled trial studying the feasibility, acceptability and effectiveness of offering opportunistic brief smoking cessation advice to clients presenting to own GP surgery for routine cervical smear tests reported positive results, more women were determined to quit smoking and women were not discouraged from attending for future smears because they had been asked about their smoking status (Hall, Reid, Ukoumunne et al, 2013). The participants in our study were found to be receptive, only less than 2% stated that timing was not right, it was personal or that they were in pain.

The similar number of referrals completed in this study reaffirms the need for practitioners to be reminded of the different contemplation stages of behaviour change. An opportunistic brief health promotion intervention by a practitioner may provide a step forward to behaviour modification for a contemplating client. However, contemplation stages of clients are not known unless the attending practitioner utilises the opportunity and engages in brief health promotion. Prochaska and DeClemente (1991) trans-theoretical model of behaviour change

have conducted a lot of work and the model has been used in many unhealthy behaviour interventions including smoking and weight management, it is recommended that nurse and paramedic practitioners in walk in centres, minor injury/illness units and urgent care centres utilise opportunities by integrating opportunistic, proactive brief health promotion intervention in every client consultation. Reduction of unhealthy behaviour will not be as successful unless concerted efforts are utilised by all health multidisciplinary workforce to engage in healthy conversations. Health promotion training is needed to encourage nurses and paramedics to engage in these conversations, for nurses to shift from traditional nursing practices and nursing education. National Institute for Health and Care Excellence has for years recommended brief health promotion by utilising the 4A's of assessing, assisting, advising and arranging however there is rich evidence to suggest that health promotion occurs when there is "time" and furthermore there are not enough nurses trained to deliver health promotion (NICE, 2007). In the developing NHS, developing autonomy of nurse and paramedic practitioners, modern walk in centres, minor injury/illness units and urgent treatment centres, the rising epidemic of long term conditions attributed to unhealthy lifestyle behaviour, there is a dire need to shift from traditional ways of working and to integrate health promotion conversations into routine illness or injury consultations to enable, promote and support healthy behaviours.

Conclusion

The randomised controlled trial sought to explore efficacy and effectiveness of implementing opportunistic brief health promotion intervention (smoking cessation, weight management and alcohol intervention) among 16-75 year old clients that live with unhealthy behaviours presenting for an injury or illness in the local urgent treatment walk in centre for minor injury and illness. Over 70% of the adult in the city live with unhealthy behaviour or behaviours and over 76% of the adults in this urgent treatment walk in centre for injury and illness live with unhealthy behaviour/s. The RCT sought to explore the best possible time to deliver brief health promotion, at initial consultation within 20 minutes of arrival or during full consultation which can be anything from 20 minutes to 4 hours waiting time. 204 participants equal in both arms were recruited and stayed to the end of the study. Clients were assessed for behaviour change, they got a brief healthy conversation, offer of referral to the Wellbeing Service and a written leaflet on the behaviour which took an average of 2-4 minutes. Equal numbers of referrals were made in each study arm (11 in each arm). The null hypothesis was rejected. However, the study provided useful data that indicates that clients are receptive to discussing wider determinants of health. Brief health promotion is feasible and effective, it does not need

to take long, it could take one to five minutes to screen, assess, offer written and oral information, and offer referral to Wellbeing services.

Key findings

- Minor injury/illness units, walk in centres and urgent care centres are widely used by the public with no scheduled appointments,
- Presenting clients are open to talk about unhealthy behaviour (smoking, alcohol weight),
- It is feasible, acceptable and possibly effective to offer brief health promotion in these centres.
- These units can be used to push the boundaries of health promotion by offering brief opportunistic health promotion and Making Every Contact Count to reduce the burden of health.

Generalisability

Walk in Centre, Minor injury/Illnesses Units, and Urgent Care/Treatment Centre services are dependent on the local commissioning clinical commissioning group (CCG), it is not known how much of this study can be transferable to other units.

Benefits and harm

All extracted data was anonymous based merely on age, gender and health behaviour.

All participants were accounted for at the end of the study and analysed in the arms they had been randomised to.

There was no reported harm.

Clients benefited by getting a brief healthy conversation and written information.

Intervention ended at the end of consultation with practitioner, with no follow up.

A referral form was completed for those that requested referral, and emailed NHS- NHS email address to the Wellbeing service for their follow up which was viewed as a benefit.

Limitations

The study is limited in its nature. The feasibility study aimed to implement new brief health promotion in a walk in centre for minor injury and illness. This was the first research project and health promotion service in this now Urgent Treatment Centre. Training in MECC only occurred during the course of data collection, brief health promotion intervention could thus not be changed to MECC. The study is also limited in that it was part of a Professional

Doctorate programme and had to focus on an area of study, health inequalities were thus not addressed. Nurse practitioners did not complete all client research checklist. The checklist was supposed to be completed for every client between 16 and 75 years of age. Nurse practitioners stated they forgot or they completed only for clients that they invited to the study.

Recommendations

Advanced nurse practitioners and paramedic practitioners must be vigilant and utilise Prochaska and DeClemente's trans-theoretical model of behaviour change stages and engage in conversation at all opportunities. Practitioners have a responsibility to support individuals to live healthier lives. Furthermore, Walk in Centres (WIC) and minor injury/illness units (MIU) and now Urgent Care Centres were opened to ease pressure on GP surgeries as well as ED. Consequently, some of the GP services need to be adapted to suit the changing lifestyles of the public, meet the need and reach people that might not routinely visit their GP. The integration of brief health promotion interventions into practice has been encouraged for years with little success. Nonetheless, the current Social and Health Care Act mandates that every health care professional should engage all client contact in healthy conversations, Making Every Contact Count [MECC], walk in centres (WIC), minor injury/illness units (MIU) and now Urgent Care Centres should follow suit (England NHS, 2014).

Opportunistic brief health promotion is feasible, acceptable and potentially effective in walk in centres, minor injury/illness units and now Urgent Care Centres. It is essential that management develop policies and guidelines for brief health promotion to occur, offer training and support staff in implementation and integration of health promotion into practice to reduce the early onset of long term conditions, inequalities, associated morbidity and mortality.

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