PROFILE STUDY TO ASSESS SELF REPORTED AT RISK-BEHAVIOURS OF ADULTS PRESENTING TO AN INJURIES/ILLNESSES UNIT (UK).

Author: Cindy U. Chacha Mannie is an Emergency Nurse Practitioner at St Mary's NHS Treatment Centre, Minor Injuries/Illnesses Unit, Care UK, Portsmouth and a Professional Doctorate research candidate.

Co-authors: Dr Ann Dewey, Dr Saseendran Pallikadavath and Dr Ngianga Kandala: Postgraduate School of Health Sciences and Social Work, University of Portsmouth.

Correspondence: gimmyjalcaddy@aol.com

Acknowledgements: Penny Daniels, hospital director and MIU staff, Care UK.

Conflict of interest- none.

Word count: Total- 4203, Abstract- 200, Body- 3115, References- 509

Figures-1, Tables-2

ABSTRACT:

Health of people living in Portsmouth is worse than that of England average with a high rate of non-accidental premature deaths and Long Term Conditions, specifically Cancers, Type ii Diabetes, High Blood Pressure and Respiratory Disease linked to poor lifestyle choices explicitly diet, inactivity, smoking and overuse of alcohol. Currently, limited studies document adults attending minor injury/illness units. A profile study was conducted to record number and type of at risk behaviour in adult clients presenting. Mandatory form was adapted to ask about smoking, Body Mass Index and alcohol consumption over one month. Of 4025 clients, 2818 fell within the inclusion criteria (16-75), 1620 (58%) consenting for data to be used for research, with 48% males females 52% and 93% were White British. The mean age was 42 (SD 16.08), mode was 31, 76% (1225) were found to live with a high risk lifestyle choice, 27% being smokers, with 57% male smokers compared to female, 34% were overweight and 38% were obese and 5% were found to consume high levels of alcohol. The study concluded that 76% had unhealthy lifestyle choices, there is an opportunity to incorporate healthy conversations, ask, assess for readiness to change, advice and referral into consultation.

Keywords- NHS WICs, MIU, Implementation, Brief Health Promotion Intervention (smoking, weight and alcohol).

Over 15.4 million people in England live with Long Term Conditions (LTC's), namely cancers, heart disease, chronic obstructive pulmonary disease and type ii diabetes, a number which is expected to rise to 18 million by 2025 (Department of Health [DH], 2010), with many people living with more than one condition, conditions for which there is currently no cure but managed by drugs and other treatment (DH, 2012a). The consequences of LTC's include around 170 000 non-accidental premature deaths every year (World Health Organization [WHO], 2013). According to the Department of Health (2012b) people with LTC's account

for 50% of all GP appointments, 64% of outpatient appointment, 70% of inpatient bed days and 70% of health and care spent on 30% of the population.

There is a strong link between avoidable unhealthy lifestyle choices, LTC's and high rates of non-accidental premature deaths (DH, 2009:2). NHS England (2013) observe that the risk of developing LTC is "greatly increased" by personal unhealthy at risk behaviour as alcohol, smoking, poor diet and inactivity, predicting that by 2035, 46% men and 40% women that are obese will result in an additional 550 000 people living with diabetes and 400 000 with stroke and heart disease. Office for National statistics, (2015), further postulate that 23% of deaths, of which 60% were male, could have been avoided through good quality healthcare or wider public health interventions. Current government agenda has set five main priorities to help people adopt healthier lives and live longer, which include tackling obesity, smoking, illegal drug use, alcohol consumption, increase exercise and reducing inequalities (Public Health England, 2015).

Portsmouth, a city on the south coast of England, has a population of 205 500 people, 49.6% male and 50.4% female, 69% are aged between 15 and 64 years (Portsmouth Clinical Commissioning Group, 2014). A predominantly white population city, 87% are White British. The city with a long industrial history has many people that work in the dockyards and factories, there is also a large student population (12.3%) with twice as many young people compared to the England average of 6.8%. Half of deaths in the city are due to heart disease, stroke, cancer and respiratory disease attributed to unhealthy lifestyle choices (Portsmouth CCG, 2014). The health profile of 2015 revealed that 24% use alcohol that could harm their health compared to 22% in England, 22% are defined as binge drinkers and 8% drink at higher risk levels, 52% of the adults are classed as obese and there are 23% smokers, compared to 20% England average. Priorities have been set to increase activity, better nutrition, tackling tobacco and alcohol misuse (Public Health England, 2015).

Health Promotion (HP) cannot be clearly defined, it is a process of enabling people to live healthier lives, described by Nutbeam (1996: 114) “*as a process of enabling individuals and communities to increase control over determinants of health thereby improving their health*”. Very brief interventions, a part of health promotion aims to identify a problem and encourage behaviour change, it can take seconds to half an hour, supporting clients and suited for busy units (Henry-Edwards, Humenuik, Ali, Monteiro and Poznyak, 2003).

Traditionally, in this country, HP is a paid service that is mainly offered by GP services through among many, new patient screening, vaccination/immunization, health checks and over 40’s well man health checks, (NHS England, 2015) a paid medical model of curative services (Ampt, Amoroso, Harris, McKenzie et al, 2009). Over the past 15 years, radical changes by the government to increase access to health care has seen the development of nurse-led Walk in Centres, Minor Injury/Illness Units (MIU) and Urgent Care Centres (Monitor, 2014). Currently, every professional in all organisations is mandated to engage all client/patient contact in healthy conversations (NHS England, 2014) and the Health and Social Care Act (2012), to take steps to protect the health of the population by taking responsibility for offering services, specifically, tobacco control, alcohol and drug misuse, tackling obesity and health checks among the priorities (Department of Health, 2014).

GAP IN SERVICES AND LITERATURE REVIEW

Walk in Centres and Minor Injury/Illness Units (MIU) have improved access to health services, to reduce the pressure in Emergency Departments (ED) and GP surgeries, to modernize the NHS to be more responsive to client’s busy lifestyles and offer more choice. These units saw the development of autonomous nurse practitioners, in a culture where health promotion has developed as a nursing role. There are variations in provided services in these units that are commissioned by local Clinical Commissioning Group (Monitor, 2014 and Chacha-Mannie,

2014). The Department of Health (1999) stipulated health education and promotion to be a key feature for any organisation proposing to set up these new services, regardless, there is very little literature of how this feature has been upheld.

Patton and Vohra (2013) conducted a 4 week pilot study on English speaking patients over the age of 16 that presented to a Minor Injuries Unit, to report on the prevalence of hazardous drinkers to determine if MIU's could host alcohol interventions and brief advice activities in units where clients would be seen by a nurse who is likely to offer advice compared of their medical colleagues. 192 participants in their study consumed alcohol at least double the daily recommended units or they admitted to presenting with an alcohol related injury or illness, 49% consumed at least double the recommended daily allowance in a single session with 34% admitting to drinking so much, more than once a week, 36% were identified as hazardous drinkers of which more were younger male, only 3% accepted the offer of help or advice. Six nurses completed a questionnaire on their views of this kind of intervention in MIU, the nurses acknowledged that it was useful, however they did not think that MIU was the right place, they did not want to offend their patients and there was no time for such services in this setting. The study concluded that MIU could host alcohol intervention and offer brief advice. The authors suggested that nurses could learn lessons from effective implementation of alcohol intervention in Emergency Department, recommended training, and clear role definition for nurses in this setting.

There were no other studies found on brief health promotion services in Walk in Centres and Minor Injuries/Illnesses Units.

The local nurse-led [MIU] Minor Injury/Illness Unit (run by Care UK for last 10 years) to date, has not previously been involved in the provision and delivery of health promotion services.

The local unit is open daily from 07/30/08:00- 22:00, it is nurse led although recently a number of paramedics have been employed.

In a city with a high rate of working force including dockyard and factories workers and a high number of young people, a high risk behaviour profile had to be conducted to inform literature if there was a presenting high risk population and thus a need to introduce brief health promotion, specifically focusing on smoking cessation, weight management (BMI or 25 and over) and alcohol intervention.

A descriptive profile study was developed.

STUDY AIMS:

- * To screen clients between the ages of 16 and 75 years old for smoking, body mass index and alcohol intake, to develop a client profile.

- * To explore if screening is acceptable to presenting clients.

- *.To explore the need to introduce brief health promotion interventions in the local unit.

MEASURABLE ENDPOINT

Enabled accepted screening by clients and identifying high risk behaviours.

ETHICAL APPROVAL

A professional doctorate research proposal to conduct a feasibility study to implement health promotion services (smoking cessation, weight management and alcohol intervention) at the local unit for Minor Injuries and Illness was successfully approved. The study was given NHS Ethical approval in June 2015 and clinical governance obtained from the local Clinical Commissioning Group and Care UK. Anonymous data was required, there were no interventions, expect for written anonymous screening for smoking, alcohol and high body

mass index that clients could self-report on the mandatory booking in form and verified by clinician to input into computer system for clients aged between 16 and 75 with full capacity.

METHOD

Non-identifiable subjective client data were collected on smoking, alcohol, weight and height, to calculate the body mass index (BMI) from 2815 client booking in forms on clients aged 16-75 years. Clients were classified as high risk if they were a smoker, consumed alcohol over the recommended units per week, reported being overweight/obese (BMI of 25 and over), or a combination of these factors. Statistical analysis included descriptive statistics illustrated in tables and in text as numbers and percentages for categorical data. Mean (SD) were reported for continuous data while multivariable logistic regression model and Pearson's Chi-Square were used for associations.

Inclusion Criteria:

All English speaking, clients between the ages of 16 and 75 years, able to read and write. A minimal age of 16 years was included in the high risk criteria as a lifestyle survey conducted in 2011 revealed that 40% of adult smokers had started smoking on a regular basis by the time they turned 16 (Office of National Statistics, 2015). While the study focuses on non-accidental premature deaths (before the age of 65), the age range was extended to 75, as some 75 year olds are still very active and can still modify their lifestyle choices and improve their health.

Exclusion Criteria: Holiday makers and temporary residents, mental ill health, emergencies namely cardiac chest pain, severe acute illnesses, and non-English speaking/reading/writing clients.

DATA COLLECTION

The mandatory booking in form for all clients aged 16 years and over was adapted to include questions about smoking, alcohol intake, weight and height. All clients aged 16-75 were provided with a patient information leaflet by reception staff on booking in. Request to use non-identifiable data for research purposes was included in the booking in form with a simple “yes” or “no” tick box answer. During subsequent consultation, nurses, verified the subjective self-reported data with clients alongside routine compulsory medical questions, medication history and allergies to input in the computer using ADAstra medical software, this is a mandatory process, however, for the purpose of this profile study, a health promotion template was enabled to include the 3 health promotion questions as previously described. ADAstra is a medical software used in Out of Hours, Walk in Centres, 111 services and Minor Injuries/Illnesses Units.

Anonymous data including age, gender, ethnicity, postcode, presenting injury/illness as well as the identified high risk behaviours was captured from the booking in form and ADAstra onto excel and exported onto IBM SPSS version 22 for data cleansing and analysis. Data collection took place over 4 weeks from the 1st to the 31st of July 2015.

ANALYSIS

The local MIU is in the PO3 postcode, however, excluding holiday makers, clients from PO1 postcode reaching as far as GU33 and SO32 postcode present to the centre. Four thousand and twenty five (4025) clients of all ages presented in the month of the study, of whom 2818 were the study interest, 57% (1620) consented to their data being used for research. 28% declined, while 15% did not answer the question. Clients presented with a number of different ailments ranging from minor to major including simple finger lacerations, viral infections to cardiac events with more injuries seen compared to illnesses (Care UK, 2015). The majority of the presentations were upper and lower limb injuries (40 %, 1122) followed by (9%, 246) of

respiratory illnesses. Of the 27% clients that declined for their data to be used for research, 9% were found to have a high risk behaviour, excluded from the analysis.

Of the 1620 that consented for their data to be used 48% (777) were male and 52% (843) were female. The presenting clients consisted of 93% (1505) White British population, 4% (64) other White and 3% (52) were a combination of Asian, Black and Chinese ethnicities. 80% (1289) of the clients completed their subjective data, with 16.2% noticeably stating that weight or height was not known or either stating “too much.” Mean age was 42 (SD 16.08) and the mode was 31, the mode is reported as the health needs of clients over 40 and those under 40 may differ as seen in GP surgery recall of clients over 40 (NHS England, 2014).

Seventy six percent (1225) of the clients were found to be at high risk from either smoking, overweight/obesity or overuse of alcohol, this is in accordance with Portsmouth figures of 70% of people in the city that have an unhealthy lifestyle choice (Portsmouth City Council, 2016). Of the 27% (441) of clients that declared themselves as smokers, 28 % smoked on a regular basis, 4% were occasional smokers and less than 1% were e-cigarette smokers, 10-19 cigarettes were the average smoked per day by 12% (193) of the smokers, with 57% (251) of the smokers male and 43% (190) female smokers.

Presenting clients had a mean weight of 77.63kg (SD 20.25), height 1.72cm (SD 1.54) and BMI 26.5 (SD 6.95). Clients with a BMI of 25 to 29.9 were 40 % (652) of whom 46% were male and 36% were female, 146 male and 208 female made up 25% (354) of clients with a BMI of 30 and more.

It was found that 47 % (761) consumed alcohol between 1-5 units, followed by 5.1 %, (82) that consumed between 11 and 15 units per week, 2% (34) were found to consume over 26 -30 units per week, with 3.2% (53) consuming over 30 units per week (Table 1).

Just over 12% (196) were found to be both smokers and overweight/ obese, 2% (19) were smokers that overused alcohol, 1.4% (23) of overweight/obese clients overused alcohol, with male outweighing female (table 1).

Results from logistic regression model are shown in table 2. After adjusting for age and gender, the analysis suggests that, smoking is a factor significantly associated with a significant high risk behaviour. It was found that the odds of having a high risk behaviour increased by age ($p < 0.001$). Compared with non-smokers, smokers have 27% increased odds of high risk behaviour [OR: 28.86, 95%CI (13.51 to 62.63)]. Male gender is associated with an increased odds of high risk behaviour compared to females ($p=0.037$). However, no association was found between ethnicity and high risk behaviour, regardless, it would have been an unbiased calculation as 93% of the population were White British. Chi- Square was run to explore the relationships between gender, age and each of the high risk behaviours. Results suggested that there is a decline in smoking as age increases, however, no association was found between age, gender, alcohol intake and BMI. There was a higher rate of overweight men, and a wider spread of obesity among female, illustrated in Figure 1.

DISCUSSION

It was found that the presenting clients are similar to those that present to GP surgeries and ED. There was a higher rate of injuries compared to illness here was noticeably a high percentage (70%) of clients between 16 and 75 of age. Healthy young people are routinely called by their GP surgery between the age of 13 and 18 a part of routine vaccination programme, with the next routine recall being some 20 years later for the over 40 years well man screening (Public Health England, 2013), resulting in a number of missed health promotion opportunities. It is well documented that high risk behaviour more so smoking and alcohol intake is higher from the adolescent age (Miller et al, 2007) and in particular higher rates are seen in young males

(White& Jackson, 2004). Injuries are also less likely to present to GP surgery, resulting in further missed opportunistic health promotion.

It is therefore, likely, that, the WIC/MIU's could provide brief health promotion interventions, an opportunity to engage young people from the age of 16 years when presenting with an injury or illness, which might otherwise be unexploited by GP surgeries. There is a gap of missed opportunities to educate, prevent high risk uptake and to promote healthy lifestyle choices from the age of 16 and more so among men who are evidenced to delay in seeking medical assistance (Murray-Law, 2011).

Nationally, England NHS five year forward view and Public Health England have prioritised tackling obesity, smoking and harmful drinking by supporting behaviour change (NHS England, 2014). NICE, (2007a), recommend that behaviour change interventions should be integrated into practice, however, the current five year forward view and Health and Social Care Act (2014) is making it the duty of every professional to promote healthy lifestyles by engaging every client that comes into contact with health services, making every contact count (MECC), providing information, brief or very brief intervention, signposting and or referring for behaviour change (NHS England, 2014). Brief and very brief health interventions have been recommended for the promotion of behaviour change, with guidance on how that can be commissioned (NICE, 2007). Brief intervention is stated to involve oral discussion, negotiation or encouragement, possible written support, it may involve referral, directing people and may take a few minutes for basic advice while very brief intervention is stated to take 30 seconds to a couple of minutes (NICE, 2007b). Henry-Edwards et al., (2003), observe that there is strong evidence that brief interventions are low in cost, they are effective and suitable for use in "busy units" as a method of health promotion and disease prevention in primary care settings clients, where 85% of the population are known to present, furthermore, MECC "make every contact count" encourages that the intervention should form part of the

consultation following NICE (2007) guidelines of the 4 A's of asking about risk behaviour, advising on risks, assessing for readiness to change behaviour and arranging by giving information or referring to appropriate services.

It is recommended that nurses and managers work together to develop policies to be put in place, provide training and preparations to be made for nurses to engage all clients in healthy conversations. Fuller (2015) refers to competencies for nurses by being alert to opportunities, engaging clients, assessing and providing information in a non-threatening, empathetic manner; in a culture of the recently introduced revalidation by the Nursing and Midwifery Council (NMC, 2016), such competencies may need to be demonstrated.

WEAKNESSES

Alcohol figures were much more challenging to collect. There was a mismatch between daily alcohol intake on the ADAstra system used and weekly alcohol intake on the adapted booking in form, some clients and nurses, also did not understand the units system of alcohol calculation. In future, scratch cards, or pictures on the forms could be used for clients to self-report and perhaps calculation tools for every nurse as they input data onto ADAstra. Twenty percent (20%) of the clients did not complete their booking for various reasons.

The response rate (80%) revealed that clients accepted the screening questions and were open about their unhealthy lifestyle choices.

CONCLUSION

The profile has suggested that there is a high rate (70%) of clients (16-75) that present to MIU per month, 76% of whom had unhealthy lifestyle behaviour, 80% accepted the screening process. There are health promotion opportunities that have to be utilised to contribute to

healthier lifestyle choices and improvement of health in the city. There is a need and opportunity for brief health promotion services in the local WIC/MIU, further mandated in the current New Public Health Approach, to engage in MECC. Further research is recommended for effective pragmatic brief health promotion services in these contemporary nurse led units. Nurses in these centres are encouraged to offer holistic care, screen for high risk behaviour to assess need and refer to Wellbeing services.

REFERENCES

- Ampt, A., Amoroso, C., Harris, M., McKenzie, S., Rose, V., Taggart, J. (2009). Attitudes, norms and controls influencing lifestyle risk factor management in general practice. Centre for primary health care and equity. *BMC Family Practice*. 10 (1), 59
- Care UK. (2015). St Mary's NHS Treatment Centre Minor Injury and Minor Illness Unit. Available at: <http://www.stmarystreatmentcentre.nhs.uk/our-services/minor-injuries-minor-illnesses-unit>
- Chacha-Mannie, C. (2014). Health Promotion in NHS Walk in Centres: a literature review. Accessed from RCN website at <http://journals.rcni.com/doi/pdfplus/10.7748/phc.24.5.24.e734>
- Department of Health (2014). Care Act Factsheets. Available at: <https://www.gov.uk/government/publications/care-act-2014-part-1-factsheets/care-act-factsheets>
- Department of Health (2012a) Long Term Conditions compendium of information. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216528/dh_134486.pdf
- Department of Health. (2012b). Longer lives. Available at. <http://healthierlives.phe.org.uk/topic/mortality>
- Department of Health (2010). Our health and wellbeing today. Accessed 03 March 2016 at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/215911/dh_122238.pdf
- Department of Health (2009) *Chief Officer Medical Report*. London: DH
- Fuller, S. (2015). Building brief intervention into your everyday work. Nursing Times. Available at: <http://www.nursingtimes.net/Journals/2015/01/23/s/k/d/280115-Building-brief-intervention-into-your-everyday-work.pdf>
- Henry-Edwards, S. Humeniuk, R. Ali, R. Monteiro, M. and Poznyak, V. (2003). Brief Intervention for substance use- a manual for use in Primary Care: draft. Available at: http://www.who.int/substance_abuse/activities/en/Draft_Brief_Intervention_for_Substance_Use.pdf
- Miller, J. Naimi, T. Brewer, R and Jones S. (2007) Binge drinking and associated health risk behaviours among high school students. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/17200273>
- Monitor (2014) Walk-in Centre Review: Final Report and Recommendations. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/283778/WalkInCentreFinalReportFeb14.pdf
- Murray-Law, B. (2011). Why do men die earlier? American Psychological Association. Available at: <http://www.apa.org/monitor/2011/06/men-die.aspx>
- National Archives (2012). The Health and Social Care Act 2012.

Available at: <http://www.legislation.gov.uk/ukpga/2012/7/notes>

National Institute for Health and Clinical Excellence (2007a). Behaviour change, general approaches. Available at: <http://www.nice.org.uk/guidance/ph6/chapter/4-Implementation>

National Institute for Health and Clinical Excellence (2007b). Brief Intervention and Very Brief Intervention. Available from NICE website at: <http://www.nice.org.uk/guidance/PH49/chapter/7-Glossary#behaviour-change-interventions>

NHS England (2016) General Medical Services (GMS) contract Quality and Outcomes Framework (QOF, Guidance for GMS contract 2015/2016. Available at:

<http://www.nhsemployers.org/your-workforce/primary-care-contacts/general-medical-services/quality-and-outcomes-framework/changes-to-qof-2016-17>

NHS England (2014). The five year forward view. Available at:

<https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf>

NHS England (2013). The NHS belongs to the people. Available at:

https://www.england.nhs.uk/wp-content/uploads/2013/07/nhs_belongs.pdf

Nursing and Midwifery Council (2016). Revalidation. Available at: <http://revalidation.nmc.org.uk/>

Nutbeam, D. (1996) Health outcomes and health promotion: defining success in health promotion. *Health Promotion Journal of Australia*, 6, 58–60

Office for National Statistics (2015) Avoidable mortality in England and Wales 2013. Available at:

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/causesofdeath/bulletins/avoidablemortalityinenglandandwales/2015-05-20>

Patton R, Vohra M. (2013) Hazardous drinking among patients attending a minor injuries unit: a pilot study. *Emergency Medicine Journal*. 30, (1)72-73

Portsmouth Clinical Commissioning Group (2014) Joint Health and Wellbeing Strategy: Working better together to improve health and wellbeing in Portsmouth 2014 – 2017. Available at <https://www.portsmouth.gov.uk/ext/documents-external/hlth-jhwellbeingstrategy2014-17.pdf>.

Portsmouth City Council. (2016). Portsmouth Wellbeing Service. Available at:

<https://www.portsmouth.gov.uk/ext/health-and-care/health/portsmouth-wellbeing-service.aspx>

Portsmouth City Council Joint Strategic Needs Assessment (2014). JSNA Annual Summaries for 2013 onwards. Accessed 12/8/2015 Available at: <https://hampshirehub-files.s3.amazonaws.com/20140114TenPageSummaryFinal.pdf>

Public Health England (2015). Portsmouth Health Profile 2015. Available at:

www.apho.org.uk/resource/view.aspx?RID=171941

Public Health England (2013). The Green Book, Immunisation against infectious disease. Available from government UK website at: <https://www.gov.uk/government/collections/immunisation-against-infectious-disease-the-green-book>

White, H., Jackson, K. (2004) Social and psychological influences on emerging adult drinking behaviour. Available at: <https://pubs.niaaa.nih.gov/publications/arh284/182-190.htm>

World Health Organisation (2014). England non communicable disease. Available at:

http://www.who.int/nmh/countries/gbr_en.pdf?ua=1

World Health Organisation. (2013) The 8th Global conference on Health Promotion, Helsinki 2013. Available at: <http://www.who.int/healthpromotion/conferences/8gchp/en/>

Appendices

Table 1, disposition of participants and results

N valid	2815
Analysed	1620
Gender Male	777 (48%)
Female	843 (52%)
Age: 16-75	1620
16-40	814 (49%)
Mean (SD)	42 (16.07)
Mode	31
Ethnicity: White British	1505 (93%)
White other	64 (4%)
African, Asian, Chinese	52 (3%)
Accessible to local services PO1-PO6	1073 (66%)
Form completed	1289 (80%)
High risk behaviour total:	1225 (76%)
Smoking	203 (12.5%)
Alcohol	22 (1%)
Obesity	761 (47%)
Smoking and Alcohol	19 (2%)
Smoking and Weight	196 (12%)
Weight and alcohol	23 (1.4%)
Smokers	441 (27.2%)
Male	251 (57%)
Female	190 (43.1%)
Alcohol use: 21-25units	72 (4.4 %)
26-30units	34 (2.1%)
30+ units	53 (3.2%)
BMI- Mean (SD)	26.5 (6.95)
Overweight BMI 25-29.9	652 (40%)
Obese BMI 30 and over	354 (22%)

Table 1: Summary statistics of the study population

Figure 1-Gender and High Risk behaviour Figures 1-4: High risks and gender

Figure 1. High risk behaviour, Age, Alcohol intake, Body Mass Index between genders

Table 2: Odd Ratio of High Risk per selected characteristics:

Variable	Odd Ratios	P-value	95% C.I.	
			Lower	Upper
Gender Male (ref)	1.00			.984
Female	0.77	0.037	0.60	0.984
Age (continuous)	1.02	<0.001	0.94	1.09
Age_ Cat		0.125		
Age_-Cat(1)	0.85	0.511	0.52	1.38
Age_-Cat(2)	0.99	0.979	0.62	1.60
Age_ Cat(3)	0.64	0.064	0.40	1.03
Ag_ Cat(4)	1.06	0.828	0.65	1.72
Age- Cat(5)	0.75	0.269	0.45	1.25
BMI				
<=24.99	1.00			
25 - 29.99	1.13	.430	.839	1.510
>= 30	1.13	.455	.818	1.563
Smoking				
Non smoker	1.00			
Smoker	28.86	<0.001	13.51	61.63
Alcohol	0.88	0.323	0.69	1.13

Number in bold signifies statistical significance at 5% significance level.