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A MODEL FOR THE DELIVERY OF INTEGRATED OCCUPATIONAL HEALTH SERVICES WITHIN THE SOUTH AFRICAN PUBLIC HEALTH SYSTEM

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Introduction A comprehensive occupational health service (OHS) should ideally be focused on preventive functions and be informed by good practice for the context in which it is delivered. This is challenge for many countries like South Africa that are facing the quadruple burden of disease with limited resources and have to make informed decisions that will ensure optimum use of resources within the health sector. OHSs tend to be neglected to non-existent in many of these settings especially in those countries that struggle with providing basic health services to the general population. A model is presented here that highlights the potential for an OHS at district level within the public health sector delivering an integrated OHS offering basic primary care services and some selected specialist services for the South African workforce.

Methods This is a conceptual model which has been through various stages of development from a simple 'health laboratory' focus to the current consideration regarding its application for the delivery of evidence based, integrated OHS.

Results The model will be visually explicit when presented in a poster format. It will highlight the innovative nature of the model especially in the context of the existing district health service.

Discussion The delivery of OHS in resource constrained settings remain a challenge for the health sector in South Africa. This conceptual model offers an innovative approach with regards to utilising an existing platform to deliver OHS as part of the Primary Health Care re-engineering process shaping current local health services. It will stimulate discussion on opportunities within the South African Public health sector to consider the delivery of occupational health services going forward.

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FROM <10 MIU/ML TO >100 MIU/ML POST ADMINISTRATION OF COMBINED HEPATITIS A&B VACCINATION TO NON-RESPONDER HEALTHCARE WORKERS IN THE HSE SOUTH EAST

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Introduction In 2008, the Journal of Infectious Diseases published a paper called 'Excellent response rate to a double dose of a combined Hepatitis A and B vaccine in previous non responders to Hepatitis B vaccine. In 2013 the National Immunisation guidelines of Ireland introduced into their Hepatitis B schedule 'administration of a double dose of combined Hepatitis A and B vaccine can induce a protective antibody response in some previous non responders' In Occupational Health HSE South East we took this research and guidelines on board and developed a protocol on Combined Hepatitis A and B vaccination.

Method We initially looked at all our Exposure Prone Procedure (EPP) category 1 workers who were non responders to Hepatitis B and offered them the vaccine. Most of these workers had primary and secondary Hepatitis B courses. Since

then we have now extended this to our category 2 workers those that are non responders to Hepatitis B but are not EPP workers. Along with development of the protocol we added an episode to our Occupational Health computer package and set up a Combined Hepatitis A and B episode with recall schedule at 0, 1 and 6 months followed by serology check 2 months post vaccination.

Results To date we have 105 healthcare workers on the Combined Hepatitis A and B course.

67 Females

38 Males

Age Profile – 29% within the 41–50 age group, 28% within the 31–40 age group and 22% within the 51–60 age group.

60 Healthcare workers have completed the course and of the 60, 55 have seroconverted between >10 mIU/ml to over 100 mIU/ml a success rate so far of 91.6%.

Discussion There are still 25 healthcare workers in the middle of the Combined Hepatitis A and B course, when they are all complete we will have a greater picture. It may be worth opening a discussion on whether Combined Hepatitis A and B vaccine should be considered as a secondary course if the healthcare worker is a non responder after a primary course.

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A DESCRIPTION OF THE EFFECTIVENESS OF SCREENING OVERSEAS WORKERS FOR LATENT TB

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Introduction Healthcare workers (HCW) are at increased risk of acquiring Tuberculosis (TB) than the general population. In Ireland a pre-employment screen for TB is recommended for all clinical staff working with patients or clinical specimens. Those workers arriving from countries with annual TB rates >40 per 1 00 000 population are classified as high priority HCW. Screening involves:

- Questionnaire,
- Tuberculin skin test (TST) or Interferon Gamma Release Assay (IGRA) testing, and
- Chest x-ray.

The aim of our study was to estimate the prevalence of latent TB in these high priority HCW and their screening outcomes and follow up.

Methods A retrospective study was carried out on all high priority HCW screened for latent TB between January 2014 and December 2016 across two multicentre occupational health services. We recorded numbers screened, results of TST/IGRA testing, outcome of clinical review and follow up attendance.

Results 505 high priority HCW were screened over 3 years. 17% (87/505) tested positive for latent TB. Of the 74 reviewed at clinic to date, 26% (19/74) completed treatment and 74% (55/74) declined treatment or defaulted from follow up. Number Needed to Screen (NNS) was calculated as 333 based on estimates of a 10% lifetime risk of reactivation and 70% relative risk reduction after 6 months of treatment with Isoniazid.¹

Discussion Of the 17% of high priority HCW who tested positive for Latent TB, an unexpectedly high proportion (75%) declined treatment or did not attend for follow up. The NNS

for similar populations varies widely in the literature, but our number of 333 although high, is within the range reported.² These results raise questions over the cost-effectiveness and proportionality of the current screening process as a method of preventing TB among HCWs and protecting patients from forward transmission.

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A STUDY ON PREVALENCE OF METABOLIC SYNDROME AND IMPACT OF WORK-PLACE EMPLOYEE WELLNESS PROMOTION PROGRAMS IN INDIAN CEMENT MANUFACTURING UNITS

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The metabolic syndrome (MetS) is a major and escalating public health and clinical challenge worldwide in the wake of urbanisation, surplus energy intake, increasing obesity, and sedentary life habits. It is a complex disorder comprising a group of interconnected cardio-metabolic risk factors, which includes abdominal obesity, insulin resistance, hypertension and high blood sugar that increase the risk of developing cardiovascular disease and type 2 diabetes mellitus, amongst other chronic metabolic abnormalities and leading to premature death. It is estimated that around 20–25 per cent of the world's adult population have the MetS, has an independent risk factor for cardiovascular disease and considered it an indication for intensive lifestyle modification. Balancing between energy expenditure and nutrition requirement is a delicate process that can be easily disrupted by environmental and genetic factors leading to the development of MetS.

In India, despite having 39% of the population as workforce, there is no data to understand the burden of accessible lifestyle disorders nor evidence towards efficacy of workplace health interventions. Given this, the present study was undertaken with an objective to identify and document the burden and ongoing healthy workplace interventions for control of MetS and Health Promotion in leading cement manufacturing units of Ultratech Cement limited, (An Aditya Birla Group) in India.

Periodical medical examination used to study prevalence for MetS. A total of 2176 workers of 18 to 58 years of age were included in this Pilot study. Questionnaire survey conducted to assess determinants of MetS. People with MetS are compared with healthy employees to understand the Impact of MetS on their work-life by analysing data of employees' Absenteeism, Medical insurance claim for self, Near misses, First-aid injuries. Data compared with general prevalence of MetS in India and globally. Work-place employee wellness programs of organisation reanalyzed to check its impact on health.

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A NEW PRACTICAL PROCEDURE FOR ASSESSING CARDIORESPIRATORY FITNESS IN WORKPLACE HEALTH CHECK-UPS

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Introduction Japan faces a serious national issue of declining worker numbers due to low birth-rate and longevity. There is an increased need to maintain workers' health and extend the working years prior to workforce retirement. Hence, research in workers' physical fitness will play a significant role in occupational health issues. Cardiorespiratory fitness (CRF) assessed by maximal oxygen consumption (VO_{2max}) plays an important role in workers' health. However, measuring VO_{2max} can be burdensome for subjects and requires skilled examiners. This is a practical disadvantage for including VO_{2max} in workplace health check-ups. In this study, we developed a new CRF measurement procedure in lieu of measuring VO_{2max} .

Methods Our study participants included 101 Japanese workers (55 men and 46 women, aged 30 to 59 years). We measured subjects' VO_{2max} by the Bruce protocol using treadmill exercise and an indirect calorimeter. Subjects also completed two newly devised assessments: (1) a step-test consisting of a 3 min stepping exercise followed by a 2 min rest and (2) a questionnaire measuring workers' physical activity level during working time and during non-working time on workdays and non-workdays. We conducted multiple regression analyses with VO_{2max} as a dependent variable and parameters obtained from the procedure as independent variables.

Results We chose the combined heart rates during the step-test's exercise and recovery periods and the questionnaire's total score as significant ($p < 0.05$) independent variables. In a multiple regression model, age (years), sex (1, 0), heart rates during the step-test (beats) and total score on the questionnaire (points) accounted for 58.6% of the VO_{2max} variance.

Conclusion The procedure we developed can be performed without a heavy exercise burden on the subject or special skills of the examiner. This study suggests that the procedure can potentially be used to assess CRF in the worker's health check-ups where VO_{2max} measurements are not available.

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INFLUENZA VACCINATION UPTAKE IN HEALTHCARE WORKERS IN IRELAND: EFFECTIVENESS OF A BRIEF EDUCATIONAL INTERVENTION IN PROMOTING POSITIVE ATTITUDINAL CHANGE

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Introduction Annual Influenza vaccination rates among Healthcare Workers (HCW) in Ireland are almost universally low despite national and international recommendations. Improving HCW Influenza vaccination rates remains an annual challenge for Occupational Health Departments. Previously studied intervention strategies that increased vaccine uptake internationally include: provision of free vaccine, easy access to the vaccine, knowledge and behaviour modification through educational activities and/or reminders and/or incentives. The aim of this study was to determine if attitudes towards the Influenza vaccination in HCW in Ireland remained a barrier to uptake of vaccination and if a brief educational intervention could cause an attitudinal shift towards receiving the vaccination. It also questioned the attitudes of HCW towards mandatory Influenza vaccination.

Methods A brief interventional video was commissioned locally prior to the start of the national influenza campaign 2017/18. It contained local healthcare staff discussing evidence based