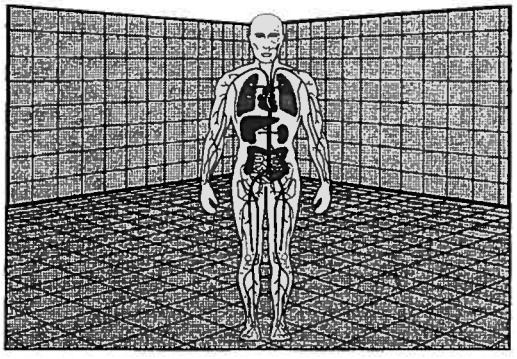
Årgang 6, Supplement nr. 3, Mai 1996

Den sjette norske epidemiologikonferansen Svalbard 30.–31. mai 1996

Norsk Epidemiologi

Norwegian Journal of Epidemiology



Norsk forening for epidemiologi

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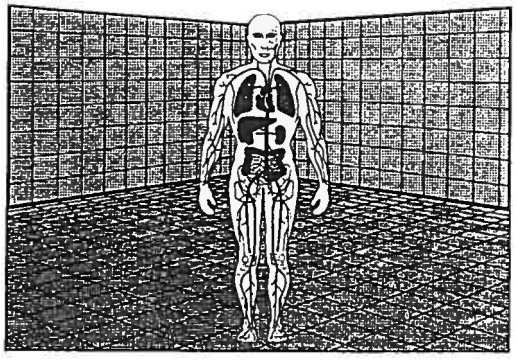

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Norsk Epidemiologi

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DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN

SVALBARD 30.-31. MAI 1996

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DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN SVALBARD 30.-31. MAI 1996

VELKOMMEN TIL SVALBARD

I romfartsfeberen på 60-tallet var det en slager som het "Everyone's gone to the moon". Nå kunne sangen vært omdøpt til "Everyone's gone to Svalbard", fordi dette året virker det som om "alle" skal gjennomføre kurs eller konferanse på Svalbard. Epidemiologikonferansen er også nå for første gang lagt hit.

Svalbard er et spennende arrangementsted på mange måter. Mange av de i alt 48 påmeldte deltakerne har ikke vært på Svalbard før, og det blir spennende å se hvilket inntrykk av dette samfunnet som en sitter igjen med. Kanskje vil isbjørnfrykten holde deltakerne samlet på en måte som gir et ekstra/spesielt sosialt utbytte, noe enkelte har savnet ved tidligere års arrangement i våre byer på fastlandet?

Det er sider ved form og innhold av Epidemiologikonferansen som kanskje bør fornyes; blant annet diskuteres det om den første *nordiske* konferansen bør arrangeres neste år. Vi håper at debatt også når det gjelder slike forhold vil finne sted på Svalbard.

Institutt for samfunnsmedisin, Universitetet i Tromsø har gjennom det siste tiår hatt betydelig aktivitet på Svalbard. Studie av helseaspekter ved bosetning så langt nord gjennomføres både i den norske (i samarbeide med Statens Helseundersøkelser) og den russiske befolkningen. Svalbardsundersøkelsens leder, Georg Høyer, vil foredra om dette tidlig på konferansen. Hvis ikke den langvarige innsamlingen av data under så ekstreme og arktiske forhold preger foredragsholderen alt for mye, kan vi nok her forvente å få diverse informasjon om Svalbard.

Konferansens program er nokså tettpakket over to hele dager, og om morgenen hver dag er det gjesteforedragsholderne som råder grunnen. Grethe Tell, opprinnelig fra Nord-Norge, men med et lengre opphold bak seg i USA, har arbeidet innen hjerte/kar epidemiologi. Fra Seattle, perlen i USA's nordvestlige hjørne, kommer den mest langveisfarende gjest, Norman Breslow. Han vil gjennom ett foredrag hver dag belyse aspekter ved statistikk og metode. Maurice Mittelmark, som i likhet med Tell oppholder seg i Bergen, vil foredra innen sitt forskningsfelt, psyko-sosiale forholds betydning for kroniske sykdommer.

Foredrag basert på innsendte abstract vil bli holdt i to parallelle sesjoner. "Årets gjesteforedrag" blir det også, og tradisjonen tro holdes det hemmelig hvem den utvalgte personen er. Endelig er det også årsmøte i Norsk forening for epidemiologi.

Avslutningsvis vil vi gjerne få takke Institutt for samfunnsmedisin, Universitetet i Tromsø for den velvilje som er vist blant annet med tanke på økonomisk støtte til arrangementet.

Arrangementet forestås av
Institutt for samfunnsmedisin, Universitetet i Tromsø
ved
Sissel Andersen, Tormod Brenn,
Vinjar Fønnebø, Inger Torhild Gram,
Bjarne Koster Jacobsen og Ragnar Joakimsen.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN SVALBARD 30.-31. MAI 1996

PROGRAM

* To be held in English

Thursday, May 30

07.30 Breakfast

08.30 Transportation to "Lompen"

09.00 Opening session

09.15 Georg Høyer:

*"The Svalbard study"**

10.00 Coffee/tea

10.15 Grethe Tell:

*"Noninvasive measures of cardiovascular disease: new tools for the epidemiologist"**

11.15 Norman E Breslow:

*"Statistics in epidemiology: The case-control study"**

12.15 Lunch

13.00 Parallel sessions based on abstracts (see page 5)

14.45 Coffee/tea

15.00 Guest speaker of the year. An honour to a Norwegian epidemiologist.

16.00 Sightseeing in Longyearbyen and surrounding areas (leaves from "Lompen")

19.00 Sightseeing ends (arriving at "Nybyen Gjestehus")

20.30 Dinner, "Huset" (individual walk, approximately 10 min.)

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN SVALBARD 30.-31. MAI 1996

PROGRAM

Friday, May 31

07.30 Breakfast

08.30 Transportation to "Lompen"

09.00 Norman E Breslow:

*"The case-pseudo control design, with application to the genetic epidemiology of insulin dependent diabetes"**

10.00 Coffee/tea

10.15 Maurice Mittelmark:

*"Psychosocial factors in the prevention of heart disease: State of knowledge and future directions"**

11.15 Parallel sessions based on abstracts (see page 5)

12.00 Lunch

12.45 Parallel sessions based on abstracts (see page 5)

14.45 Coffee/tea - Annual meeting "Norsk forening for epidemiologi"

16.15 Conference closing

16.30 Time for shopping

18.00 Bus to "Nybyen Gjestehus"

19.30 Conference dinner, "Longyearbyen Grill & Restaurant" (individual walk, approximately 10 min.)

Saturday, June 1

07.30 Transportation to airport

09.00 Departure (breakfast on board)

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN SVALBARD 30.-31. MAI 1996

OVERSIKT OVER FOREDRAG BASERT PÅ INNSENDTE ABSTRACT

(Tallene foran foredragsholdernes navn refererer til abstractnummer, se fra s. 6)

Torsdag 30. mai 13.00-14.45

	Grupperom *"Metode"*	Møterom *"Kreftepidemiologi"*
13.00	**1** Zahl	**8** Andersen, Aa
13.15	**2** Glattre	**9** Heuch, JM
13.30	**3** Lipton	**10** Albrektsen
13.45	**4** Aase	**11** Veierød
14.00	**5** Wilsgaard	**12** Thoresen
14.15	**6** Arntzen	**13** Risberg
14.30	**7** Fønnebø	**14** Kliukiene
	Ordstyrer: Bjørn Straume	*Ordstyrer: Inger Torhild Gram*

Fredag 31. mai 11.15-12.00

	Grupperom *"Hjerte/kar epidemiologi"*	Møterom *"Perinatal epidemiologi - 1"*
11.15	**15** Løchen	**18** Skjærven
11.30	**16** Graff-Iversen	**19** Jacobsen
11.45	**17** Lupton	**20** Arntzen
	Ordstyrer: Ragnar M. Joakimsen	*Ordstyrer: Vinjar Fønnebø*

Fredag 31. mai 12.45-14.45

	Grupperom *"Perinatal epidemiologi - 2"*	Møterom *"Forskjellige temaer"*
12.45	**21** Kristensen	**29** Nilssen
13.00	**22** Grimstad	**30** Fylkesnes
13.15	**23** Irgens, Å	**31** Glattre
13.30	**24** Magnus	**32** Joakimsen
13.45	**25** Samuelsen	**33** Haug
14.00	**26** Irgens, LM	**34** Smith-Sivertsen
14.15	**27** Skjærven	**35** Harris
14.30	**28** Magnus	**36** Selmer
	Ordstyrer: Beate Lupton	*Ordstyrer: Maja-Lisa Løchen*

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

1 Sesjon: "Metode"
Grupperom torsdag 30. mai kl. 13.00

FRAILTY MODELLING FOR THE EXCESS HAZARD

PER-HENRIK ZAHL
KØBENHAVN UNIVERSITET
BIOSTATISTISK AFDELING

Long-term excess hazards, e.g. for cancer survival, sometimes tend to zero or become negative even though we apriori expect them to be positive. This may be explained by selection; individuals with certain cancers may have an increased risk of dying of other diseases in general. Then comparing with population mortality rates is not correct. Alternatively, we may have a continuous selection of the most robust individuals after diagnosis. When there are unobserved heterogeneity, and those with highest risk of dying of cancer also have the highest risk of dying of other diseases, this will cause selection after diagnosis and statistical artefacts. This may be modelled by multivariate frailty theory, and a corrected excess hazard may be estimated. In two examples, these corrected excess hazard give a better estimate, when comparing to the cause-specific cancer mortality. Actually, this study questions the usefulness of long-term excess hazard rates.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

2 Sesjon: "Metode"
Grupperom torsdag 30. mai kl. 13.15

ARGUMENTER FOR OG MOT RASJONALITETEN I EPIDEMIOLOGENES BRUK AV INDUKTIVE SLUTNINGER

av Eystein Glattre, Kreftregisteret.

Alle epidemiologer vil før eller senere støte på problemet. Når man det gjør, kan man velge å se bort fra det, hvis ikke vil det være min anbefaling at man gjør seg godt kjent med de løsningsforslag som verserer.
Problemet aktualiseres hver gang man har gjennomført det epidemiologiske pliktløp: En assosiasjon er funnet mellom eksponering og sykdom, alt er gjort for å eliminere bias og konfundering og dessuten har man oppskriftsmessig forkastet at assosiasjonen skulle bero på tilfeldigheter.
Men problemet blir først uunngåelig i det øyeblikk man ønsker å finne ut om den påviste assosiasjonen er kausal eller non-kausal. Og situasjonen er ofte den at det er bydende nødvendig å forsøke og avklare årsaksspørsmålet, f.eks. i forbindelse med sykdomsforebyggende arbeid.
Epidemiologer vil alltid vite hvordan dette skal gjennomføres praktisk, man benytter seg nemlig av Bradford Hills kriterier (1), men uten nødvendigvis å ha forstått og tatt standpunkt til problemets løsning. Og problemet er i korthet at man med den informasjon som skaffes på denne måten, skal avgjøre om det er grunnlag for å ta spranget fra det partikulære, dvs de indisier som er framskaffet, til det generelle, dvs at eksponeringen opphøyes til årsak til sykdommen. Det er imidlertid forskningslogisk ugyldig å slutte fra enkeltobservasjoner til lovmessigheter i universum når man intet aner om utvalgets egenskaper i relasjon til universums. David Hume (2) uttrykker det på denne måten: Det er på logisk grunnlag ikke mulig å hevde at det som gjelder for å være årsakssammenheng i øyeblikket, også vil være det i framtiden - uten å gjøre forutsetning om at virkelighetens verden vil bestå uforandret framover hvilket det ikke er objektivt grunnlag for å hevde. Argumentasjonen blir dermed meningsløs.
Slik forstått er kausalslutninger og induktiv logikk ugyldige. Dette gjelder også induktive slutninger om hypotetisk-deduktive resultater, om verifisering og falsifisering.
Når epidemiologer likevel fortsetter med sine kausalslutninger, må det være viktig for oss å klargjøre rasjonaliteten i dette. En av dem som har sterke meninger om dette er Mervyn Susser: "Man kan resonnere, være pragmatisk og bruke sunt vett og likevel begå feil i forhold til formallogiske systemer." Hele den vitenskapelige virkelighet lar seg ikke fange inn i noe enkelt logisk-filosofisk system (3).
I den orale presentasjon vil det bli framlagt sentrale argumenter for og mot bruken av induktive slutninger i epidemiologien.

(1) AB Hill: The environment and disease: association or causation? Proc Roy Soc Med 1965; 58:295-300. (2) A.Næss: Filosofiens historie. Oslo, 1953. (3) M.Susser: Epidemiology today: A thought-tormented world. Int J Epidemiol 1989; 18:481-488.

3 Sesjon: "Metode"
Grupperom torsdag 30. mai kl. 13.30

IS IT EVER CAUSAL? MODERATE ALCOHOL AND HEART DISEASE: THE POLITICS OF CAUSAL NAMING IN EPIDEMIOLOGY.

Robert Lipton. (Department of Child and Adolescent Psychiatry and Department of Epidemiology, University of Tromsø, Norway 9016).

Although there is growing evidence for a relationship between moderate alcohol use and heart disease, an agreed upon etiological explanation has so far eluded researchers in the field, notwithstanding a spate of hypothesized, and somewhat substantiated, mechanisms. Nevertheless, this uncertainty has not kept many researchers and governments (notably England and the US) from claiming that a protective "causal" effect exists between moderate alcohol and heart disease. This paper will explore the possibility that the claim of a causal relationship only serves to help make the research findings appear more interesting without contributing any additional scientific information. Through a combination of different meta-analytic "causal" tools such as sufficient component causes, counter factuals, refutationism, and criteria such as Hill's, an argument will be put forth which brings into question the strength of the purported connection between moderate alcohol use and heart disease. Further, the argument will be generalized, using fundamental concepts in statistics, epidemiology and philosophy to show that a deep confusion exists concerning the nature of causation and causes. Emphasis will focus on "telling a good story" about the research at hand, concentrating on the "use value" of research, and indicating where such approaches would help to characterize the information from research specifically related to moderate alcohol use and heart disease. Data from the author's own research as well as from other research in the field, particularly in regard to proper stratification of smokers and non-drinkers will be discussed in regard to telling such a "good story." This paper will show that when something is causal, it is "because" of a set of reasons or a story, this "because" is the essential ingredient and one that ultimately leaves the causal modifier redundant.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

4 Sesjon: "Metode"
Grupperom torsdag 30. mai kl. 13.45

MAPPING OF DISEASE AND MORTALITY IN NORWAY

Asbjørn Aase
Department of Geography
Norwegian University of Science and Technology, Trondheim

Norway has a rich and interesting tradition in disease and mortality mapping and in producing health atlases. The paper gives an overview of this mapping tradition and shows its potential as a tool in epidemiological analysis.

The first map of mortality variations in Norway goes back to Eilert Sundt and covers the period 1831-1850. It is an admirable work for its time, using age adjusted rates and showing percentage deviations from the national mean for 53 deaneries (prostier). The mortality pattern for Norway shown by Sundt is compared with the situation in the 1970s and the 1980s. There are many similarities and some striking changes.

In an atlas of Norway from the 1920s a map of cancer incidence appears, based on the first attempt to establish a cancer registry.

The international system for disease classification (ICD), registries for causes of death, incidence of cancers and other diseases, and computer mapping techniques made new advances in disease mapping possible. The first product in this new tradition was the Cancer Registry's Atlas of Cancer Incidence in Norway from 1985 with data for 1970-1979. It is based on data for communes and uses a statistical technique for geographical smoothening of data. A Nordic Cancer Atlas for the 1970s has also been produced.

In the series of National Atlas of Norway a volume on Health and Health Services is in press. It uses data for the 1980s and early 90s and shows time trends for many diseases and causes of death.

A regional atlas of Health and Well-being for the county of Hordaland has just appeared. It covers a wide range of health-related topics and contains comparisons between regions within Hordaland, the whole county and national distributions.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

5 Sesjon: "Metode" Grupperom torsdag 30. mai kl. 14.00

GJENTATTE MÅLINGER AV BLODTRYKK HOS MENN: TROMSØ-UNDERSØKELSEN 1974-86

Tom Wilsgaard

Institutt for samfunnsmedisin, Universitetet i Tromsø

Bakgrunn: Høyt blodtrykk er en anerkjent risikofaktor for hjerte- og karsykdommer, men lite er kjent med tanke på hvordan blodtrykket ved målinger i ulike helseundersøkelser varierer over lengre tid hos det enkelte individ.

Materiale og metoder: I tre påfølgende Tromsø-undersøkelser deltok alle ganger i alt 4183 menn. Blodtrykket i 1974 og 1979 ble målt manuelt, og automatisk i 1986. Mål på individets evne til å holde sin plass i fordelingen er kalt for "tracking" og kan måles ved korrelasjonskoeffisienter eller som personers relative forflytting fra gang til gang. Denne forflyttingen kan videre måles ved egne "tracking"-koeffisienter eller som andeler av et på forhånd spesifisert forflyttingskriterie.

Resultat: Tabellen viser at samvariasjonen er større for det systoliske en for det diastoliske blodtrykket, avtar noe over tid og er minst hos de yngste.

Systolisk blodtrykk										
Alder		I (1974)		II (1979)		III (1986)		Pearsons korrelasjon		
i 1974	n	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s	I-II	II-III	I-III
20-24	502	124.5	13.3	128.8	11.6	127.3	12.9	0.430	0.483	0.409
25-29	790	125.5	13.4	129.3	12.1	128.3	12.1	0.567	0.602	0.507
30-34	820	125.8	13.3	129.1	12.6	129.2	13.4	0.520	0.579	0.456
35-39	702	127.7	14.5	130.8	13.9	131.4	15.2	0.594	0.623	0.460
40-44	688	127.7	16.6	131.6	14.7	134.0	17.0	0.558	0.593	0.476
45-49	981	129.2	16.6	135.1	17.3	138.7	18.7	0.577	0.587	0.409
Total	4183	126.8	14.8	130.8	14.0	131.5	15.5	0.556	0.598	0.460
Diastolisk blodtrykk										
Alder		I (1974)		II (1979)		III (1986)		Pearsons korrelasjon		
i 1974	n	$\bar{x}$	s	$\bar{x}$	s	$\bar{x}$	s	I-II	II-III	I-III
20-24	502	73.8	11.3	78.8	10.2	74.4	10.0	0.506	0.506	0.332
25-29	790	75.9	10.1	81.6	9.2	77.5	9.6	0.402	0.483	0.369
30-34	820	76.9	10.5	82.7	9.6	78.8	10.0	0.429	0.547	0.347
35-39	702	79.4	11.1	84.7	10.2	81.2	10.4	0.534	0.575	0.418
40-44	687	80.4	11.5	85.2	10.5	82.4	10.7	0.473	0.513	0.379
45-49	981	82.1	11.6	87.2	10.5	83.8	11.0	0.509	0.523	0.327
Total	4182	78.2	11.4	83.5	10.3	79.8	10.7	0.485	0.557	0.403

Konklusjon: Forklaringen på at samvariasjonen er minst hos de yngste kan være at deres livssituasjon er mindre stabil enn hos eldre. Dvs. at endringer i forhold hos de yngste kan ha betydning for endring av blodtrykket, og utvikling av hypertensjon. DBT er mere variabelt over lengre tid enn SBT, noe som bl.a. kan skyldes at DBT er vanskeligere å bestemme enn SBT.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

6 Sesjon: "Metode"
Grupperom torsdag 30. mai kl. 14.15

HENÆR-prosjektet. FOREBYGGENDE OG HELSEFREMMENDE ARBEID I NÆRMILJØET.

Annett Arntzen[1], Bjørn Hauger[2]
[1]Avdeling for samfunnsfag, [2]Avdeling for helsefag, Høgskolen i Vestfold

Bakgrunn Betydningen av økt satsing på forebyggende helsearbeid står sentralt i en rekke helsepolitiske dokumenter som er fremlagt de siste årene. Det pekes på nødvendigheten av å se det individrettede og det miljørettet arbeid i sammenheng med helseopplysning.

Formålet med HENÆR-prosjektene er å øke kompetansen for helsefremmende- og sykdomsforebyggende arbeid for ansatte i offentlig og privat sektor og i de frivillige organisasjonene. Videre å utvikle det tverretatelige og tverrfaglige samarbeid i kommunene, og bidra til at befolkningens ressurser i større grad blir utgangspunktet for kommunale tiltak og programmer som iverksettes.

Metoder I det forebyggende og helsefremmende er det vanlig å skille mellom individrettet og samfunnsrettet arbeid. Å tenke helhet i det lokale folkehelsearbeidet betyr å vurdere problem- og trivselsaspekter, og dermed tiltaksutvikling med utgangspunkt i det sosiokulturelle miljøet, og kontekstuelle analyser. Gjennom kontekstuelle studier synliggjøres mange og uiike aspekter ved problemet som ofte kan forstås i lys av hverdagslivets rutiner og organisering, nærhet og sosial kontakt. Gjennom det å fokusere på små samfunn, familie, skole, arbeidsplasser og lokal samfunn (nærmiljø) har kommunene en god mulighet til å skaffe seg kunnskap om forhold som har betydning for folk sin helse og trivsel (selvopplevd). Utvikling av sunne lokalsamfunn krever støtte fra utsiden (kompetanse, penger o.a.) og deltakerstyrte og egenutviklede tiltak (selvhjelp, dugnad o.a.). En slik mangefasettert tilnærmingsmåte basert på kontekstuelle analyser vil utgjøre en ny strategi innenfor det lokale folkehelse arbeid. Denne strategien har vi valgt å kalle helsefremmende nærmiljø arbeid (HENÆR).

Diskusjon Skal Høgskolen i Vestfold bygge opp kompetanse på dette området må vi dra veksler på andre folkehelsetradisjoner enn de rådende. Vårt vitenskapsteoretiske utgangspunkt er at forholdet mellom mennesker i det sivile samfunn består av interne relasjoner. Slike forhold kan studeres og analyseres gjennom forskernes deltagelse (ikke tilskuer) til den situasjonen som skal undersøkes. Å få kunnskap om den kompetansen og de ressursene vanlige folk har til å mestre sine hverdagsliv, kan gi kommunene verdifull kunnskap om hvordan den kan støtte folk på sine egene premisser. Erfaringsgrunnlaget for denne typen forskning ligger i mikrososiologien og den kritiske teorien. Dette i kombinasjon med epidemiologiske metoder vil gjøre det mulig på sikt å nå målet for HENÆR-prosjektet: å bli et viktig supplement til de nasjonale forskningsmiljøene omkring utvikling av virkemidler i det lokalt forebyggende arbeid

7 Sesjon: "Metode"
Grupperom torsdag 30. mai kl. 14.30

VALIDITETSPROBLEMER VED TELEFONBASERTE EPIDEMIOLOGISKE UNDERSØKELSER?

Vinjar Fønnebø og Anne-Johanne Søgaard

Institutt for Samfunnsmedisin, Universitetet i Tromsø

Formål: Telefon brukes ofte til innhenting av informasjon i landsomfattende utvalgsundersøkelser. Formålet med denne studien er å se på hvordan tilgang til telefon påvirker validiteten av svarmønsteret, og om telefonintervju og personlig intervju gir samme informasjon.

Materiale og metode: Før TV-aksjonen for psykisk helse i november 1992 ble 1191 personer personlig intervjuet (Nielsen Norges juni-OMNIBUS) om kunnskap og holdninger til psykiske plager, og det ble også spurt om telefontilgjengelighet. I oppfølgingsundersøkelsen i desember samme år nådde man fram til 644, 135 av disse måtte telefonintervjues fordi man ikke traff dem hjemme ved personlig besøk..

Resultater: 79 personer oppga at de ikke hadde tilgang til telefon. Andelen var ca. 3% for alle aldersgrupper unntatt 20-34 åringer. Her lå andelen på 15,3%. Innen denne aldersgruppen hadde samboende og ugifte lavest telefontetthet. Studiens konklusjoner ville generelt bli minimalt påvirket av om man ekskluderte de uten telefon. For 20-34 åringer ville imidlertid anslaget på en av variablene - dvs. andel som ville anbefale et menneske å gå til lege med lettere psykiske plager, gått ned fra 15,0 til 12,8%. Andelen man i oppfølgingsundersøkelsen måtte telefonintervjue varierte lite med kjønn, alder, sivilstatus, utdanningslengde og bosted. Svarene respondentene gav på spørsmål relatert til psykiske lidelser var ikke forskjellige enten man benyttet personlig eller telefonisk intervju. De som kun ble nådd med telefonintervju hadde sett mindre på TV både aksjonsdagen($p=0,02$) og i ukene før ($p=0,01$).

Konklusjon: Validiteten i en epidemiologisk telefonbasert intervjuundersøkelse svekkes lite av telefontilgjengeligheten. For aldersgrupper over 34 år kan man trygt bruke kun telefonintervju. Intervju foretatt over telefon har i evalueringsundersøkelsen av TV-aksjonen i 1992 ikke gitt annet svarmønster enn personlig intervju.

8 Sesjon: "Kreftepidemiologi"
Møterom torsdag 30. mai kl. 13.00

Incidence of cancer among lighthouse keepers exposed to asbestos in drinking water

Aa Andersen 1, E Glattre 1, BV Johansen 2

1 The Cancer Registry of Norway
2 National Institute of Public Health

There has been public concern about the possible adverse health effect of asbestos in municipal water supplies. In view of the importance of the problem and the widespread and unavoidable human exposure to asbestos fibres via oral route. A study was confined to lighthouse keepers whose water supply came from cisterns receiving rain water off asbestos cement roofs with extraordinary high fiber content.

A cohort of 690 employees working at lighthouses in the period 1920-1966 was established. All new cases of cancer for the period 1953-1993 have been recorded. The study is based on a comparison of the observed and expected numbers of cancer cases in the cohort.

The study shows no stastically significant excess for any individual type of cancer. A higher observed number than expected was shown for cancer of the stomach (SIR=1.5, 95% CI, 0.9-2.2), and in the group 20 years or more since first exposure SIR= 2.4 based on 11 cases (95% CI, 1.2-4.3). For all digestive tract as a whole (ICD-code 151-154) SIR= 1.3. No cases of malignant mesothelioma were found.

An excessive risk of stomach cancer has been demonstrated in the group with a latency period of 20 years or more, but it is difficult to explore the problem because of lack of exposure data and confounding dietary factors.

9 Sesjon: "Kreftepidemiologi"
Møterom torsdag 30. mai kl. 13.15

BIRTH CHARACTERISTICS AND RISK OF WILMS' TUMOUR: A NATIONWIDE PROSPECTIVE STUDY IN NORWAY

Jane M. Heuch[1], Ivar Heuch[2] and Gunnar Kvåle[3]

[1] Section for Medical Informatics and Statistics, University of Bergen; [2] Department of Mathematics, University of Bergen; [3] Centre for International Health, University of Bergen.

Aim: To study potential associations between variables recorded at birth and subsequent incidence of Wilms' tumour in children aged 0–14 years.

Materials and methods: This is a cohort study of all 1 489 297 children born in Norway between 1967 and 1992, with information recorded at birth provided by the Medical Birth Registry. Follow-up of each child extended from the birth until a diagnosis of Wilms' tumour was made, the child reached the age of 15 years, death, or end of follow-up in 1993. Information of cancer diagnoses was supplied by the Cancer Registry of Norway. A total of 119 individuals were diagnosed with histologically verified Wilms' tumour. Incidence rate ratios (IRR) were estimated by Poisson regression analysis of person-years at risk.

Results: A high length at birth was significantly associated with a high risk (IRR = 1.8 for length $\geq$53 cm vs. $\leq$49 cm, 95 % CI 1.0–3.2). A low Apgar score at 1 minute was also associated with an increased risk (IRR = 2.2 for Apgar score $\leq$8 vs. a score $\geq$ 9, 95 % CI 1.2–3.9). For all variables for which an association was indicated, the association seemed to be restricted mainly to children aged less than 2 years.

Conclusion: Wilms' tumour diagnosed early in life may have an etiology different from that for cases diagnosed later. This may reflect disturbances in the nephrogenic process occurring in different phases of development.

10 Sesjon: "Kreftepidemiologi"
Møterom torsdag 30. mai kl. 13.30

EPITHELIAL OVARIAN CANCER AND FULL-TERM PREGNANCIES

Grethe Albrektsen[1], Ivar Heuch[2], and Gunnar Kvåle[3]

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[2] Department of mathematics, University of Bergen
[3] Centre for international health, University of Bergen

Aim: To examine relations between the risk of epithelial ovarian cancer and time-related effects of pregnancies.

Material and methods: We analyzed data from a prospective study of 1,145,076 women aged 20-56 years. The mean follow-up time per woman was 16.4 years and a total of 1,694 women were diagnosed with epithelial ovarian cancer. Incidence rate ratios (IRR) were estimated by Poisson regression analysis of person-years at risk.

Results: The risk of epithelial ovarian cancer decreased with an increasing number of full-term pregnancies (IRR=0.56; 95% CI=0.48-0.67 for 3 pregnancies vs. 1). However, no further reduction in risk was seen after the third pregnancy. The association with parity became weaker with increasing age at last birth. Furthermore, the reduction in risk among parous women compared to nulliparous women was more pronounced shortly after birth. High age at last birth and short time since last birth were both associated with a reduction in risk, although these relations were mainly seen for the first and second births. Increasing age at first birth was associated with a decrease in risk among uniparous women but not among multiparous women.

Conclusion: Our results indicate that the relations between the incidence of epithelial ovarian cancer and reproductive factors are more complex than previously believed.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

11 Sesjon: "Kreftepidemiologi" Møterom torsdag 30. mai kl. 13.45

KOSTHOLD OG RISIKO FOR LUNGEKREFT

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Formål: I løpet av de siste 50 årene har gjentatte undersøkelser vist en kausal sammenheng mellom røyking og lungekreft. Over 90% av lungekrefttilfellene skyldes røyking. Men blant røykerne er det under 10% som utvikler lungekreft. Altså må andre faktorer vurderes for å forklare insidenstallene. Et stort antall epidemiologiske studier har nesten uten unntak vist invers sammenheng mellom lungekreft og konsum av frukt og grønnsaker. Melk, margarin, egg, kaffe, kjøtt og fisk er også relatert til lungekreft i noen studier, men her er resultatene sprikende. Det samme gjelder påstanden om at inntak av kolesterol og fett øker risikoen for lungekreft. Formålet med dette arbeidet er å undersøke sammenhengen mellom kosthold og lungekreft i et foreliggende stort norsk materiale.

Materiale og metoder: Dataene er hentet fra annen gangs hjerte-karundersøkelse i Finnmark, Sogn og Fjordane og Oppland utført av Statens helseundersøkelser i 1977-82. Kosthold ble registrert ved hjelp av selvadministrert spørreskjema delt ut ved undersøkelsen. 51 452 personer er fulgt opp med hensyn til alle typer kreftforekomst samt dødelighet og emigrasjon frem til 31.12.91. Gjennomsnittlig oppfølgingstid er 11.2 år og 153 lungekrefttilfeller er registrert. Den statistiske analysen er utført ved hjelp av Poisson regresjon. Det er justert for røykestatus, kjønn, alder ved inklusjon og oppnådd alder. I analysene av inntak av kolesterol, totalt fett og fettsyrer er det i tillegg justert for totalt energiinntak.

Resultater: Justert relativ risiko (RR) var signifikant lavere for personer som tok tran sammenlignet med personer som ikke tok slikt tilskudd (RR=0.53, 95% KI (0.27, 1.03)). Også for skummet melk sammenlignet med H-melk var det negativ sammenheng med risiko for lungekreft (RR=0.52, 95% KI (0.28, 0.94)), mens mengden melk ikke var av betydning. Det synes å være økt risiko for personer som brukte vegetabilsk margarin på brødet sammenlignet med smør (RR=1.42, 95% KI (0.85, 2.37)). Verken konsum av appelsiner, epler/pærer eller poteter var signifikant relatert til lungekreft. Bruk av fiskepålegg viste signifikant høyere risiko sammenlignet med ingen bruk av slikt pålegg (RR=1.52), videre viste fiskelever/uke og fiskemiddager/uke signifikant høyere risiko i øverste intervall sammenlignet med det laveste (RR hhv 2.63 og 3.00). For enumettet og flerumettet fett var RR hhv omtrent dobbelt så stor og en og en halv gang så stor i de tre øverste kvartilene, sammenlignet med første kvartil. Antydningen til en 'terskel' mellom første og andre kvartil ble også funnet for totalt fettinntak.

Konklusjon: Denne studien slutter seg inn i rekken av studier som viser at kosthold har betydning for risikoen for lungekreft. I foredraget vil resultatene bli diskutert i forhold til funn fra andre studier både med tanke på innhold av næringsstoffer i de aktuelle matvarene og om konsumet av enkelte matvarer er indikatorer for et bestemt kosthold eller en livsstil som er av betydning.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

12 Sesjon: "Kreftepidemiologi" Møterom torsdag 30. mai kl. 14.00

ORGANISERT CERVIXSCREENING SOM PRØVEPROSJEKT; RESULTATER OG KONSEKVENSER.

Steinar Østerbø Thoresen, Gry Skare, Oddvar Sandvin.
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Bakgrunn.
I Norge har det gjennom 30 år foregått en opportunistisk cervixscreening med et høyt forbruk av celleprøver hos unge kvinner med lav risiko for sykdom, mens kvinner over 50 år i liten grad har tatt slike prøver. Morbiditet og mortalitet av cervixcancer har ligget tre til fire ganger høyere i Norge, sammmenlignet med land som har hatt organisert screening i mange år. Fra november 1991 ble det satt igang et prøveprosjekt med registrering av alle cytologiske prøver, samt utsendelse av invitasjoner i to prøvefylker, Vestfold og Sør-Trøndelag. Målsettingen for programmet er at 80 % av kvinner mellom 25 og 69 år skal ha tatt en cervix cytologisk prøve i en tre-års periode.

Materiale.
Invitasjoner ble fra desember 1992 sendt til alle kvinner mellom 50-69 år i Vestfold og Sør-Trøndelag. Kvinner som var registrert med prøve i databasen ble ekskludert. Videre ble kvinner som hadde tatt prøve i løpet de tre siste år oppfordret til ikke å ta prøve nå. Kvinnene mottok en personlig invitasjon med informasjonsbrosjyre og oppfordring til å ringe egen lege for time til prøvetaking. Alle positive funn (gjelder alle fylker) ble fulgt opp dersom kontrollprøve ikke ble tatt til rett tid.

Resultater.
Bakgrunnsstallene viste raskt at omlag 60 % av kvinner i aktuell aldersgruppe tok celleprøve spontant (uten invitasjon) i løpet av den ønskede tre-års periode. Prosenten var over 80 hos unge kvinner, men falt til under 40 hos de eldste kvinnene. Ved direkte invitasjon ble dekningsprosenten økt til nær 60 % for de eldste. For de yngste kvinnene (25-35 år) hadde personlig invitasjoner liten effekt. Kontrollbrev etter positivt funn ble fulgt opp av 80 % av kvinnene.

Konsekvenser.
Invitasjoner sendes nå ut til alle kvinner mellom 25 og 69 år som ikke er registrert med celleprøve i løpet av de tre siste årene. Dette pågår nå i alle fylker. Invitasjoner sendes ut etter fødselsdag i måneden. Pr 1. april 996 har kvinner født den 20. i måneden mottatt invitasjonsbrev. Videre planlegges en pilotstudie for kvinner over 50 år med fast tid- og stedsangivelse.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

13 Sesjon: "Kreftepidemiologi" Møterom torsdag 30. mai kl. 14.15

Patient's opinion about the causes of cancer.

A comparative study between patient with non-malignant disease and cancer-patients, related to their view on alternative medicine.

Risberg T, Lund E. and Wist E.

Aim

The aim of this study were to analyse patients' (non-cancer patients, G.P.P. and cancer patients, C.P.) view on environmental and life-style factors as possible etiologic agents to cancer. At the same time we wanted to find out if patients opinion on importance and use of alternative medicine did influence their views.

Material/Method

A longitudinal questionnaire based study about use/opinion of non-proven therapies (NPTs) and patients opinion of causes of cancer was started at The Department of Oncology, University Hospital of Tromsø in July 1990. Altogether 252 of the invited 263 (95.8%) cancer patients, participated in the study. Among the cancer patients (66/238) 28% had a positive view on NPTs. A population of 400 non-cancer patients was invited to answer anonymously the same questions. 76.3% answered the questionnaire and were eligible in the analysis. Thirty-six per cent of G.P.P were found to have a positive view on NPTs in the treatment of cancer.

Results

Sixty per cent of G.P.P. and 54% C.P. (P=0.05) believed external environmental factors to be very important as cause of cancer. Among patients believing external environmental factors to be of some or imperative importance as cause of cancer 40% ranked air pollution and chemical substances as the most carcinogenic factors in the environment. Twenty per cent ranked chemical substances or air pollution together with other factors as the most important. Only 2% of G.P.P. and 6% of C.P. rejected environmental factors as possible causes of cancer.

In both groups of patients, about 50% believed that cancer could be a hereditary disease. Very few patients (8/523) thought cancer could be a contagious disease. About 75% of all patients believed smoking of tobacco could cause cancer. Sixty percent (176/295) of G.P.P. believed that an improved lifestyle could change the natural cause of cancer compared to 35% (86/249) of C.P. (P<0.005). Patients believing in the use and importance of alternative medicine expressed stronger opinions of the importance of environmental factors than those not believing. Patients that thought NPTs were of importance in the treatment of cancer also believed to a higher degree that the outcome of cancer could be influenced by changing the life-style.

Conclusion

This study show that C.P. have less firm convictions about the causes of cancer than G.P.P. Patients believing in the importance and use of NPT as treatment of cancer believe more inn the importance of environmental factors and life-style than others.

14 Sesjon: "Kreftepidemiologi"
Møterom torsdag 30. mai kl. 14.30

CANCER INCIDENCE IN LITHUANIA AND NORWAY 1988-1992.

Jolanta Kliukiene. Lithuanian Oncology Center (The Cancer Registry)

The population in Lithuania and Norway are of the same size, 3,7 million and 4,2 respectively. In both countries the registration of cancer is based on compulsory reporting.

In Lithuania the reporting system to the Cancer Registry is organized through 5 oncological hospitals and 71 local oncological services. The reporting system in Norway is based on notification from different sources (hospitals, laboratories and deaths certificates). Figures in present paper are age standardized according to the world population and based on all new cancer cases in 1988-92.

For the mentioned 5-year period the incidence for all types of cancer combined was 250 per 100,000 for Lithuanian men and 280 for Norwegian men. Similar figures for women were 165 and 235 in Lithuania and Norway.The three most frequent cancer sites for males per 100,000 in Lithuania were lung (63.0), stomach (28.7) and prostate (18.6). In Norway the incidence for the same sites were 34.9, 13.8 and 49.1. For females, the three most frequent cancer sites in Lithuania were breast (30.8), cervix uteri (13.2) and stomach (12.4). Corresponding figures in Norwegian women were 57.9, 12.8 and 6.5.The highest ratio between Lithuania and Norway was observed in stomach cancer (men=2.4, women=2.1). In men the ratio for lung cancer was 1.7, and in women the ratio for breast cancer was 0.6 and for malignant melanoma 0.2.

The incidence of all cancer combined is lower for both sexes in Lithuania. The comparison between the two countries is of importance in the future discussion on the influence of different life-style factors such as nutrition, smoking, fertility, UV-radiation etc. on cancer incidence.

15 Sesjon: "Hjerte/kar epidemiologi"
Grupperom fredag 31. mai kl. 11.15

CAN SINGLE LEAD COMPUTERIZED ELECTROCARDIOGRAPHY PREDICT MYOCARDIAL INFARCTION? THE TROMSØ STUDY.

Maja-Lisa Løchen[1], Knut Rasmussen[2], Peter W. Macfarlane[3], Egil Arnesen[1].
[1] Institute of Community Medicine, University of Tromsø, Norway; [2] Institute of Clinical Medicine, University of Tromsø, Norway;[3] Department of Medical Cardiology, Royal Infirmary, University of Glasgow, Scotland.

Aim: To assess the risk of developing myocardial infarction according to QRS duration and T wave amplitude as measured by computerized electrocardiography of lead I.
Materials and methods: In 1986-87, 6628 men aged 25-61 years without previous myocardial infarction were screened for cardiovascular risk factors including computerized electrocardiography of lead I in Tromsø, Northern Norway. The cohort was followed up for 3.9 years with respect to myocardial infarction and sudden death.
Results: During the 25748 person-years of observation, 82 myocardial infarctions (55 non-fatal and 24 fatal myocardial infarctions, and three sudden deaths) were identified. Risk of myocardial infarction increased with QRS duration and with decreasing T wave amplitude. A proportional hazards model with adjustment for possible confounders, yielded a relative risk of myocardial infarction between QRS $\geq$ 120 msec compared with QRS < 80 msec of 3.74 (p for linear trend: 0.015). The multivariate relative risk for T $\geq$ 0.70 mV compared with T < 0.40 mV was 0.55 (p for linear trend: 0.036). When both QRS and T were included in the multivariate model, T retained its predictive power, while QRS became marginally non-significant (p=0.067).
Conclusions: T wave amplitude is an independent predictor of myocardial infarction in men without previous myocardial infarction. Increasing QRS duration clearly indicates higher risk of myocardial infarction. However, when T is included as a covariate, the predictive power of QRS becomes marginally non-significant. Single lead electrocardiography is a feasible method in screenings and may improve the prediction of myocardial infarction in populations.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

16 Sesjon: "Hjerte/kar epidemiologi" Grupperom fredag 31. mai kl. 11.30

HELSE, HELSEVANER OG SERUMLIPIDER HOS KVINNER SOM BRUKTE ØSTROGEN VED OVERGANGSALDEREN I 1985-88.

Sidsel Graff-Iversen,
Statens helseundersøkelser.

Bakgrunn: Kvinner som bruker østrogen, har omtrent 50% lavere risiko for hjerteinfarkt enn ikke-brukere, men man vet ikke om det skyldes seleksjon eller medikament.
Følgende hypoteser blir belyst: Kvinner som bruker østrogen, alene eller med progesteron, har 1) bedre helse og helsevaner og 2)gunstigere nivå for serumlipider enn ikke-brukere.

Materiale: Ved hjerte- og karundersøkelsne i Finnmark, Sogn og Fjordane og Oppland 1985-88 ble alle kvinner i alder 40-54 invitert, og 89% møtte. Studien besto i spørreskjema og måling av vekt, høyde, blodtrykk, pulsfrekvens og serumlipider.

Resultater: Blant dem som opplyste om sikker eller mulig menopause, hadde bruk av østrogen alene ingen sammenheng med rapportert helse eller helsevaner. Brukerne av kombinasjonspreparater, derimot, var litt høyere og slankere, hadde sjeldnere husarbeid som hovedyrke og brukte mindre kokekaffe enn kvinner uten østrogensubstitusjon. Resultatene for serumlipider:

Middelverdier Justert for: alder, BMI	Østrogen alene n=184	Østrogen og progesteron n=320	Ingen n=9081
Totalkolesterol, mmol/l	6.48*	6,19§	6.69
Hdl-kolesterol, mmol/l	1,64#	1,58	1,55
Total/hdl-kolesterol	4,19*	4,07§	4,48
Triglyserider,mmol/l	1,67	1,56*	1,64

* $p<0.05$; # $p<0.01$; §$p<0.001$, gjelder østrogenbrukere vs. ikke-brukere.

Konklusjon: De som brukte østrogen alene, hadde ikke spesielt god helse eller gode helsevaner. De som brukte kombinasjonspreparater, hadde derimot enkelte indikatorer på en livsstil forenelig med gunstig nivå av serumlipider. Kvinnene som brukte østrogen alene, hadde høyere nivå av hdl-kolesterol enn ikke-brukere. Dette stemmer med funn av østrogeneffekt i en kontrollert studie. Videre var totalkolesterol og forholdet total/hdl-kolesterol lavere hos begge grupper østrogenbrukere enn hos ikke-brukere.

17 Sesjon: "Hjerte/kar epidemiologi"
Grupperom fredag 31. mai kl. 11.45

EFFECTS OF COMMUNITY BASED INTERVENTION ON BLOODPRESSURE, CHOLESTEROL AND SMOKING. (The Finnmark intervention Study)

B.S.Lupton, V.Fønnebø, A.J.Søgaard. Institute of Community medicine, University of Tromsø.

Objectives: Reduction of risk factors for cardiovascular disease by intensive community intervention in two fishing villages in the county of Finnmark. **Material and method**: Two different intervention methods based on local participation were applied in Båtsfjord and Nordkapp. Three control municipalities were selected based on demographic characteristics. All inhabitants aged 40-62 were invited to the baseline survey in 1987. In the postintervention survey in 1993 all inhabitants aged 40-68 were invited. In addition a random sample of persons aged 20-39 were invited in both surveys. The attendance rate was 77% in 1987 and 69 % in 1993. Changes in the 1987 cohort from the two different intervention sites have separately been compared with changes in the control municipalities. **Results**: **Changes in systolic blood pressure (SBP)**: From 1987 to 1993 SBP for females has risen significantly less in Båtsfjord than in the controls($p<0,001$). **Changes in diastolic blood pressure(DBP)**:Between 1987 and 1993 DBP has been reduced in Båtsfjord compared to controls for both males and females($p<0,001$). In Nordkapp there was a slight increase in DBP. **Changes in cholesterol.** Only small insignificant changes were seen. **Changes in smoking habits**: The proportion of females quitting smoking is significantly higher in both intervention municipalities compared with controls(Båtsfjord /controls $p=0,01$, Nordkapp/controls $p=0,008$). In males the differences were not statistically significant. **Conclusion:** The preliminary results from this study indicate that it is possible to influence even basic physiological measures through community-based intervention programmes.

18 Sesjon: "Perinatal epidemiologi - 1"
Møterom fredag 31. mai kl. 11.15

SLEEPING POSITION AND SUDDEN INFANT DEATH SYNDROME (SIDS) THE NORDIC EPIDEMIOLOGICAL SIDS STUDY

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on behalf of the Nordic Epidemiologic Study on Sudden infant death syndrome
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Background. Studies support the hypothesis that some sudden infant death syndrome (SIDS) babies have experienced unfavorable intrauterine conditions. Such infants could be susceptible to further contributing events at the typical age of SIDS, around 3 months of age. In the present study we investigate the association between markers of unfavorable prenatal conditions and prone sleeping position on the risk of SIDS.

Material and Methods. Parents of SIDS victims in Denmark, Norway, and Sweden were invited to participate and fill out a questionnaire on prenatal and postnatal risk factors for SIDS. For each SIDS baby, parents of 4 live infants matched on gender, age at death, and maternity ward, have answered similar questionnaires. Forensic pathologists have verified the SIDS diagnoses according to a protocol by the Nordic SIDS Pathology group. This retrospective case control study included 246 SIDS cases and 875 controls during 1991-95. Risk factors were analyzed in a matched case control design by conditional logistic regression, with OR as the effect measure.

Results. Prone sleeping position was a strong risk factor for SIDS; the OR was 14.2 (95% CI 8.4-24) compared with the supine position. If the baby was put to sleep in the side position, the risk was also elevated, 3.5 (2.1-5.7). An excess risk due to joint effect of birth weight and sleeping position on the risk of SIDS, was most pronounced for small infants placed in side position. Adjustment for smoking, prenatal factors and other post natal factors demonstrated that prone sleeping position was an independent risk factor for SIDS.

Conclusion. The present study confirms that prone sleeping position is a strong risk factor for SIDS. Further efforts should be made to advise parents to put their baby to sleep on the back.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

19 Sesjon: "Perinatal epidemiologi - 1"
Møterom fredag 31. mai kl. 11.30

PRE- AND POSTNATAL GROWTH IN CHILDREN OF WOMEN WHO SMOKED IN PREGNANCY

Torstein Vik, Geir Jacobsen*, Lars J. Vatten, Leiv S. Bakketeig (Norwegian University of Science and Technology, 7005 Trondheim, Norway. Tel + 47 73598875).

The NICHD Successive Small-for-Gestational Age Study is a population based prospective study in Trondheim and Bergen, Norway and Uppsala, Sweden (1). Eligible for enrolment were para 1 and 2 women of Caucasian origin who had a singleton pregnancy and were registered prior to the 20th gestational week. Study enrolment took place in 1986-88 and maternal characteristics that were recorded also included pregnancy weight and height, smoking habits, education and previous birth outcomes.
In a random subset, pre- and postnatal growth was studied from week 17 of pregnancy until five years of age in children of 185 women who reported daily smoking at the time of conception, and compared to the growth in children of 345 non-smokers. Fetal abdominal diameter, femur length, and biparietal diameter were measured in week 17 and 37 of pregnancy and weight, height, head circumference and skinfolds at birth, and at 6, 13 and 60 months of age. Cross sectional data at birth showed that infants of smokers had lower weight and height, but similar ponderal index as infants of non-smokers, which may suggest a symmetrical growth retardation. Based on repeated measures analysis of variance of calculated sex-specific z-scores, longitudinal growth curves indicated that growth retardation took place during the second half of pregnancy, By five years of age, children of smokers showed a complete catch-up growth in weight, a partial catch-up in height, but no catch-up in head circumference. Five years old, children of smokers had a higher ponderal index and skinfold thickness. This may indicate that these children tended to be more obese than offspring of non-smokers.

Reference
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* Presenting author

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20 Sesjon: "Perinatal epidemiologi - 1"
Møterom fredag 31. mai kl. 11.45

SOCIODEMOGRAPHIC FACTORS AND OUTCOMES OF PREGNANCY. Epidemiological studies based on the Medical Birth Registry and Census data.

Annett Arntzen
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Background and objectives Norway is widely assumed to be an egalitarian society. This may be the reason for why prior to 1970s there was no reported data on the relationship between social factors and infant mortality. At the same time infant mortality has mainly been seen as a medical problem to be dealt with by planning and implementing the appropriate public health prevention programmes. One of the main objectives was to investigate differences in pregnancy outcome along a broadened range of variables including both medical and social factors.
Social differences in pregnancy outcomes have been repeatedly found in other countries, and for this reason we wanted to give empirical estimates of risk of adverse pregnancy outcomes, and to estimate the degree of association between sociodemographic variables and pregnancy outcome.
The reduction of infant mortality requires defining the population at risk, why it is at risk and how to reduce the risk. For identifying risk groups, it is necessary to include both medical and social factors in one's study design. This may be sufficient when an additional purpose of one's study is to identify subgroups in need for special attention in health and social policy.
Materials and methods The present study is based on births, registered in the Medical Birth registry (MBR) in the period 1967-1991. In order to obtain information not available in the MBR, such as parental educational level, occupation and income, a record linkage was carried out based on the 11-digit personal identification number attached to each child and its parents. Information from the MBR and the Censuses were linked by Central Bureau of Statistics, and anonymized files were available for analysis. Several types of data analyses were employed in order to shed light upon the different problems under study. Proportions, means and crosstabulations were used in order to describe bivariate relationships between pregnancy outcomes and sociademographic variables. Concordance analysis, multiple logistic regression analysis and Poisson regression are also used.
Results There are sociodemographic differences in pregnancy outcomes in Norway. Different sociodemographic factors influence stillbirth, neonatal- and postneonatal mortality. Furthermore, social factors in many ways show similar, but not identical associations. The inverse association between socio-economic status and postneonatal mortality has increased over time.
Discussion These findings should give rise to concern, since they indicate that the growth of the welfare state has not eliminated mortality differentials across groups.
Conclusion Knowledge regarding these associations may provide important background information in the planning of health and social policy, and may also contribute to a better scientific understanding of sociodemographic differentials in pregnancy outcome. It also may alert clinicians to the high rates of fetal and early death in certain situations.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

21 Sesjon: "Perinatal epidemiologi - 2" Grupperom fredag 31. mai kl. 12.45

ENVIRONMENTAL EXPOSURES AND ADVERSE PERINATAL OUTCOMES: THE MODIFYING EFFECT OF THE MOTHER'S REPRODUCTIVE HISTORY ANALYZED IN FARMERS' SIBSHIPS.

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Background In a cross-sectional study with the birth as observational unit, grain farming was associated with delivery in gestation weeks 21-24 (midpregnancy delivery). A stronger association for multiple pregnancies indicates biological heterogeneity; even selective fertility was suspected due to a stronger exposure effect for birth orders above three. This was further explored in an analysis based on the mother as observational unit.

Material and methods Farm holders born later than 1924 were identified in the Norwegian agricultural censuses in 1969-1989. Their spouses were identified in the Central Personal Register. In a linkage with the Medical Birth Registry of Norway, 181,225 births, 1967-1991, with known gestational age were identified. Information on grain cultivation was available in the censuses. A file of 59,338 farm mothers with more than one singleton delivery (total births, n = 140,568) in 1967-1991 was established, and the effect of the mother's reproductive history in prior or subsequent pregnancies on the association between grain farming and midpregnancy delivery was investigated in stratified contingency tables.

Results Nongrain farmers had 177 midpregnancy deliveries (1.7 per 1,000 births); 100 cases were identified in grain farmers (2.7 per 1,000). A preterm history increased the probability of a midpregnancy delivery manyfold in both exposure categories. In mothers without a preterm history grain farming was moderately associated with midpregnancy delivery (OR, 1.4; 95% CI, 1.0-1.9). The grain effect was stronger in mothers with a preterm history (OR, 2.0; 95% CI, 1.3-3.1). The evidence for a modifying effect of preterm history was strengthened when the gestation week distribution was explored in categories of grain farming and preterm history: an excess due to grain farming was restricted to gestational weeks 21-24 in the no preterm history stratum; in the preterm history stratum the effect of grain farming was strong for gestational ages extending to week 32. The grain effect was present in all birth orders, and although it was strongest for birth order four, selective fertility had little impact on the results.

Conclusion The results indicate that mothers with a preterm history are susceptible to the labor-inducing effect of a factor in grain farming. Selective fertility has little impact on this association.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

22 Sesjon: "Perinatal epidemiologi - 2"
Grupperom fredag 31. mai kl. 13.00

WIFE ABUSE AND BIRTH WEIGHT.

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Background: Physical abuse during pregnancy has been acknowledged as an important risk to the health of both mother and infant. The aim of the study was to assess the effect of wife physical abuse on birth weight.

Material and methods: In a case control study a total of 178 women who delivered a singleton infant at the University hospital of Trondheim during 18 months in 1992, 1993, or 1994 were interviewed about spousal physical abuse, and sexual abuse in childhood or later in life. Cases were women who gave birth to an infant of low birth weight (<2500g). Following each index birth, the selected control was the next woman who delivered an infant weighing 2500g or more. Women who were residing outside Sør-Trøndelag county, not born in Norway, admitted to the hospital for an abortion, or with a pregnancy shorter than 18 gestational weeks were ineligible for the study. The interviews were semistructured based on an interview guide. Questions about spousal physical abuse were both asked directly and registered by a modified Straus' Conflict Tactics Scale. Violent acts more severe than «slapping» were defined as abuse.

Results: A total of 6 % of the women were physically abused in their current relationship. Only one woman had experienced wife physical abuse during the index pregnancy. The proportion of abused women did not significantly differ between the study group (n= 6) and the control group (n=5).

Conclusion: Preliminary analysis indicates no association between wife abuse and low birth weight.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

23 Sesjon: "Perinatal epidemiologi - 2" Grupperom fredag 31. mai kl. 13.15

SEX RATIO IN CHILDREN OF PARENTS WORKING IN SMELTER AND FOUNDRY INDUSTRY.

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Aim. To assess whether offspring above 16 week of gestation, of workers exposed to magnetic fields in smelter and foundry industry have a deviant sex ratio.

Method. The study was based on all births in Norway 1970 -1993 for which linkage with population census information could be obtained (about 1 mill). Parents' occupation was decided on the basis of census derived information from 1970, -80 and -90 on job title, branch, education and municipality. The reference population was the group that did not belong to the occupation under study.

Results.Exposed group I: Men working as smelters (code 731) in factories producing iron, steel and ferro alloys (code371). 1819 children were born. The prevalence of boys was 50,1% against 51,4% in the reference population, relative risk 0,96 (CI 0,81-1,05).
Exposed group II: Men working as smelters (code 731) in factories producing non-ferrous metals, mostly aluminium (code 372). 2837 children were born. The prevalence of boys was 49,9%, relative risk 0,94 (CI 0,87-1,01).
Exposed group III: Women working as smelter, metal worker, foundry worker in factories producing iron, steel, ferro alloys and non-ferrous metals (code 371-2) gave birth to 277 children, 45,1% boys, relative risk 0,78 (CI 0,61-0,98).
Exposed group IV: Women working in aluminium industry as smelter, metal worker, foundry worker (code 730-9), and having residence in municipalities with aluminium foundry or close to these municipalities. 80 children were born, 36,3% boys, relative risk 0,54 (CI 0,34-0,84).

Conclusion. Sex ratio in offspring of male workers in smelter industry was slightly reduced while sex ratio in offspring of female workers, among whom 25-40% were married to men in the same industry, was significantly reduced.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

24 Sesjon: "Perinatal epidemiologi - 2"
Grupperom fredag 31. mai kl. 13.30

THE ASSOCIATION BETWEEN TOXEMIA IN PREGNANCY AND ALLERGIC DISORDERS IN OFFSPRING

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Background: Recently, several reports have shown that asthma is more frequent in children with older brothers and sisters. One interpretation of this finding is that increased exposure to infections in the first months of life is protective against later development of allergy. An alternative hypothesis is that toxemia, which is most prevalent in the first pregnancy, confers an increased risk of allergic development on the child.
Materials and methods: The sample consists of 5864 twins, born in 1967-74, who responded to a health questionnaire in 1992. The response rate was 73 %. 5140 twins belonged to pairs where both responded and 724 to pairs where only one responded. The sample was based on records from the Medical Birth Registry (MBR). Information on toxemia was retrieved from the MBR, and items about asthma, hay fever, urticaria and childhood eczema were included in the questionnaire. The dependent variables were the occurrence of these diseases in one or both twins, and the relative risk of disease was estimated with logistic regression, adjusting for parity.
Results: 15.4 % of mothers had one or more symptoms associated with toxemia. Allergic disorders, in particular hay fever, were more often reported in offspring of women with these toxemic symptoms. Among single responders (no response from the cotwin), the OR for hayfever was 1.81 (95% CI: 1.02-3.23) for offspring of mothers with toxemia. For pairs, the OR for hayfever in one or both twins was 1.20 (0.91-1.58).
Conclusion: Toxemia is associated with immunological irregularities in pregnancy that may increase the risk of allergy in offspring. The associations described here may be chance findings and need confirmation.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

25 Sesjon: "Perinatal epidemiologi - 2" Grupperom fredag 31. mai kl. 13.45

ASSOCIATION BETWEEN LOW BIRTH WEIGHT AND MORTALITY AMONG NORWEGIAN CHILDREN AGE 1-15 BORN 1967-1990.

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AIM: It is well-known that in the first year of life mortality is higher among the children with low birth weight. In this study we will examine this association later in childhood.

MATERIAL: Data from the Norwegian Medical Birth Registry (MFR) and from the Cause of Death Registry (DR) were linked. MFR contains data on birth weight, gestational age and possible confounders as sex, parity and maternal age on the majority of Norwegian children born from 1967 and onwards, totally about 1.300.000 children up to 1991. DR contains dates and causes of death for 4877 of the eligible children. Causes of death are categorized as infections, cancer, malformations, other diseases and injuries and violent deaths.

METHODS: Relative risks (RR) are calculated as quotients between crude death rates and adjusted by Poisson regression. The associations are studied more closely by smoothing techniques (generalized additive models).

RESULTS: Regarding total mortality, the adjusted RR on birth weight below 2500 grams was 2.2 among 1-5 year old, 1.8 among 6-10 year old and 1.3 among 11-15 year old children. These results were clearly significant among 1-5 and 6-10 year old children, but insignificant among the oldest children. However, with a finer partitioning of birth weight it was possible to demonstrate that there was an association also among the 11-15 year olds. The association was most pronounced for malformations, but it was clearly present for infections and other diseases and to a weaker extent for injuries. The association was log-linearly decreasing for malformations, but for total mortality, infections, other diseases and injuries there were indications of a U-shape with the risk increasing at very high birth weights. For cancer there was an apparent protective effect of low birth weight.

CONCLUSION: The study has demonstrated that low birth weight continues to be associated with increased mortality throughout childhood and that the association is found for all causes except cancer. The result for cancer deaths among children with low birth weight is surprising and a corresponding study should be carried out for cancer morbidity data.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

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Grupperom fredag 31. mai kl. 14.00

PREGNANCY OUTCOME AFTER IN VITRO FERTILIZATION (IVF) IN NORWAY 1988-91

Lorentz M. Irgens [1], Vidar von Düring [2], Jan Martin Maltau [3], Finn Forsdahl [3],Thomas Åbyholm [4], Rita Kolvik [5], Gudvor Ertzeid [6], Arnt Steier [7], Valborg Baste [1].

Medisinsk fødselsregister (1) , Regionsykehuset i Trondheim (2), Regionsykehuset i Tromsø (3), Rikshospitalet (4), Fylkessykehuset i Haugesund (5), Ullevål sykehus (6), Haukeland sykehus (7).

Aim: To assess risk patterns associated with in vitro fertilization.

Materials: Data on all 1.165 pregnancies after IVF with a delivery 1988-91 in six public hospitals in Norway were forwarded to the Medical Birth Registry of Norway (MBRN) and analysed together with the data routinely reported to MBRN on the same births.

Results: The annual number of pregnancies increased from 158 in 1988 to 365 in 1991 while the mean number of embryos transferred was reduced from 3.7 to 2.7. The proportion of multiple births in IVF (30.0%) (versus 1.3% in non IVF births) did not change during the period. Preeclampsia (RR 1.6) haemorrhage (RR 3.2) and pre term birth (RR 3.8) were more frequent adjusted for maternal age and birth order in total and even in single births. Likewise, stillbirth and infant death were more frequent adjusted for maternal age and birth order in total (RR 3.1) and even in single births (RR 2.3).

Conclusion: IVF is associated with significantly increased risks related to pregnancy outcome, not only due to a high proportion of multiple births, but even in single births. Further studies, in which methodologically different variants of IVF are assessed, preferably in a randomized controlled design, are needed.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

27 Sesjon: "Perinatal epidemiologi - 2"
Grupperom fredag 31. mai kl. 14.15

SUGGESTING NEW STANDARDS FOR BIRTHWEIGHT-BY-GESTATIONAL AGE USING FAMILY DATA

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[3]National Institute of Health, Oslo

Introduction Standards for birthweight-by-gestational age are usually presented in strata of gender and parity, acknowledging the 130-150 grams difference in expected size at birth between male and female, and between 2nd and 1st births. Such standards are used to identify small-for-gestational age (SGA) births (birthweight less than the 10th percentile of weight by gestational age). However, birthweights of siblings are highly correlated (r=0.50), also there is a strong relation between maternal and offspring birthweight (r=0.25). These links within family data may be used to improve standards of fetal growth.
Material and Method We analyse data available in the Medical Birth Registry of Norway, approx. 1.6 million births. These population based data cover 29 years of births (1967-1995). The data are arranged into units of sibships and mother-offspring units.
Results At 40 weeks gestation, mean offspring birthweight varies between 3300 grams and 4000 grams depending on the birthweight of the mother. An even stronger link is present between 1st and 2nd births: more than 1000 grams difference can be predicted for 2nd births at 40 weeks depending on the size at birth of the older sibling. The effects are less in the preterm weeks (less than 37 weeks of gestation), still the differences persists.
Discussion Family data provide improved predictions for birthweight-by-gestational age. They add to the traditionally used factors - gender and parity, and are considerably stronger than the combined effect of these. Birthweights of older siblings, as well as birthweight of the mother herself, are easily available data and should be utilised in standards for fetal growth to improve the classification of small-for-gestational age births.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

28 Sesjon: "Perinatal epidemiologi - 2"
Grupperom fredag 31. mai kl. 14.30

STILLBIRTH, NEONATAL AND POSTNEONATAL MORTALITY AMONG PAKISTANI AND NORWEGIAN CHILDREN IN NORWAY 1967-1993

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Objective: To analyse the influence of consanguinity and social class, estimated as mothers' years of education, on differences in stillbirth, neonatal and postneonatal mortality between children of Pakistani immigrants to Norway and children of parents with Norwegian ethnic origin.
Study population: 7,274 births by two parents of Pakistani origin and 1,431,055 births by two parents of Norwegian ethnic origin in Norway from 1967 to 1993 were analysed. 40% of the Pakistani and 0.1% of the Norwegian children had parents that were consanguineous.
Data: Information from the Medical Birth Registry of Norway on survival of the child, consanguinity, maternal age, parity and year of birth was linked with population census data on parents' country of origin and mothers' years of education.
Method: The relative risk of death was estimated as odds ratios (OR) with 95% confidence intervals in multiple logistic regression models.
Results: The mortality rate was higher in the Pakistani than in the Norwegian group with a relative risk of 1.3 (1.1-1.6) for stillbirth, 1.5 (1.1-1.9) for neonatal and 2.1 (1.6-2.8) for postneonatal death (adjusted for year of birth). Maternal education >12 years was associated with lower risk of stillbirth in both groups and explained the difference between the groups, while consanguinity had only minor influence on stillbirth rates. The difference between the Pakistani and the Norwegian group in neonatal mortality was associated only with the high frequency of consanguinity among the Pakistani, while the difference in postneonatal mortality was related partly to consanguinity and partly to differences in maternal education. Maternal age and parity played a role for mortality, but did not explain differences between the groups and had no influence on the effects of consanguinity or maternal education.
Conclusion: Mortality differences between Pakistani and Norwegian children were significant, but moderate. Consanguinity and social class explained the differences. The influence of consanguinity and social class on these differences varied for stillbirth, neonatal and postneonatal death.

29 Sesjon: "Forskjellige temaer"
Møterom fredag 31. mai kl. 12.45

SØVNPROBLEMER OG DEPRESJON HOS NORDMENN OG RUSSERE PÅ SVALBARD.

Odd Nilssen

Institutt for samfunnsmedisin, UITØ

Hensikt: Å studere forekomst av depresjon og søvnproblemer i to etniske forskjellige populasjoner som lever i et ekstremt arktisk klima.
Materiale: Vel 500 nordmenn bosatt i Longyear-byen (1989) og 450 russere i Pyramiden og i Barentsburg (1993) inngikk i en spørreskjema-undersøkelse. Det ble spurt om ulike typer søvnproblem og depresjon samt sesongvariasjon. Videre spurte vi om bruk av medikamenter, røyk, kaffe og alkoholbruk, om psykiske og fysiske sykdommer, arbeide og utdannelse.
Resultater: Søvnproblemer og depresjon var like hyppig blant nordmenn på Svalbard som blant nordmenn i Tromsø. Mens søvnproblemene var jevnt fordelt over hele året, var depresjonen hyppigst vinter og høst/vår. Hos russerne forekom søvn-vansker og depresjon ca 3 ganger hyppigere enn hos nordmenn (hhv. 82 og 78% for søvnvansker og 27 og 45 % for depresjon hos menn og kvinner. Russerne rapportert søvnproblemer hyppigst vinter eller uavhengig av årstid, mens depresjon først og fremst forekom i den mørke årstiden. Justering for antall år på Svalbard endret ikke funnene substansielt.
Konklusjon: Anvendte spørreskjema var identiske i studiene. Vi har diskutert mulig kulturell eller språklig betinget misforståelse av spørsmålene, men mangler evidens for slik konklusjon. Vi antyder at den høye prevalens av søvnvansker og depresjon blant russerne kan henge sammen med at langt de fleste russerne var rekrutert fra langt sydligere breddegrader enn tilfellet var for nordmenn.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

30 Sesjon: "Forskjellige temaer"
Møterom fredag 31. mai kl. 13.00

ESTIMATING HIV PREVALENCE PATTERNS IN ZAMBIA: HOW REPRESENTATIVE ARE CHILDBEARING WOMEN?

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Context: Child bearing women (CBW) are identified as a key sentinel population monitoring the HIV epidemic, and within the main HIV belt most information on prevalence patterns and trends of infection stem from such surveillance data. Few efforts have been made, however, to assess the representativity of available prevalence estimates derived from CBW.

Objective: To compare overall HIV prevalence and distributional patterns by age, sex and social status based on CBW with those provided from a population based survey in an urban Zambian population.

Material and methods: The data from CBW were collected in 1994 as a part of the national HIV/STD surveillance system including 27 sentinel areas and a total of 11,500 first attenders of ante natal care. Socio-demographic information were provided through personal interviews, and the method of anonymous, unlinked testing of blood samples was used to determine HIV status. One of the urban sentinel areas (Chelstone, Lusaka with a sample size of 479 CBW) was included in the first Zambian population based survey on HIV infection and risk factors conducted in 1995 (personal interviews and collection of saliva samples among adults 15+ years). A two-stage random sampling method was employed resulting in a total sample size of 3625. The eligible population was 2546, ie. persons available after a maximum 3 home visits, and information from interview and saliva sample was provided from a total of 2311 (saliva refusal rate: 10 % men and 7 % women). Educational attainment was used as an indicator of social status.

Results: For the age-group 15-39 the overall HIV prevalence based on CBW (n=443) was 24.6 % (95% CI: 20.6; 28.6) compared to 25.5 % (95 % CI: 23.5; 27.4) revealed by the population based survey (n=1903). The latter showed a significantly higher prevalence among women than men (OR=1.5 in all adults and 1.8 for the 15-39 age-group). Furthermore, women were infected at an earlier age then men, and the CBW based overall prevalence appeared to significantly underestimate the prevalence of the general female population. Both materials revealed the proportion infected to steeply rise by increasing educational attainment.

Conclusion: In the urban Zambian setting HIV sentinel surveillance among CBW seems to provide estimates being reasonable representative for the general population 15-39 years. In a situation with clearly higher prevalence rates among women and a strikingly different age distribution of HIV infection compared to men, CBW based estimates tend to significantly underestimate the prevalence of the general female population.

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31 Sesjon: "Forskjellige temaer"
Møterom fredag 31. mai kl. 13.15

COMPANION ANIMAL EPIDEMIOLOGY

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In Norway approximately 14% and 17% of households own at least one dog or cat respectively. The majority of these animals share the same living conditions and many of the same environmental exposures as their human owners. Although most pets are fed commercially prepared diets, a high proportion also share some of their owner's food.
Chronic diseases such as cancer, renal diseases, heart diseases and endocrinological diseases are predominant and major death causes in Norway. Infectious diseases are of little health care importance in industrialised countries.
Health care of companion animals is almost entirely individually oriented, with little emphasis on preventive medicine, similar to what is observed in human medicine. Companion animals are cared for at privately owned clinics and hospitals offering high quality health care. Economic health care decisions are predicated on emotional ties and ability to pay, more than on the economic value of the animal. Since companion animals are non-essential to the human food supply or agricultural economy the costs of disease study are largely privately borne. The similarities to human medicine make the study of companion animal epidemiology more akin to human than livestock epidemiology.
The use of animal models for human disease is ever increasing. Companion animals have shorter lifespans than humans and the possibility of using them as sentinels for some shared human-animal diseases poses great potential. The full extent of comparative studies of human and animal cancer has yet to be exploited. In Norway a canine cancer registry covering four counties (Oslo, Akershus, Troms and Finnmark) was founded in 1990. Today it comprises over 10 000 cases of canine neoplasia.

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BODY HEIGHT AND FRACTURES
TROST (Tromsø Osteoporosis Study)

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Objectives: High body height has in some studies been found to be a risk factor for hip fractures. However, a similar relationship has not been studied with respect to other fracture types. The average body height in Norway has increased by almost 10 cm the last century. We have examined the association between body height and all types of fractures in order to explore if a height increase might explain increments in fracture incidence,.

Material and methods: All males born 1925-59 and all females born 1930-59 and living in the city of Tromsø were invited to surveys in 1979/80 and 1986/87 (Tromsø Heart Study). Of 16,676 invited, 12,270 met twice (74%). All types of fractures in the period 1988-1994 except vertebral fractures (n=826), have been recorded and verified by X-ray in the only hospital in the area. Fractures have been coded as low-traumatic or not from information in the referrals.

Results: Men in the highest quartile (>181 cm) had a relative risk of any fracture type of 1.39 (CI 1.06-1.84, p=0.01) compared to those in the lowest quartile (≤172 cm). Adjustment for potential confounders did not change the estimate. The effect of height was somewhat more pronounced for low traumatic fractures. Women in the highest quartile (>168 cm) had an odds ratio of 1.52 (CI 1.08-2.13, p=0.02) of low traumatic fracture compared to those in the lowest quartile (≤159.5 cm), when adjusted for age, body mass index and height reduction.

Conclusion: High body height is a risk factor for fractures, especially for low-traumatic fractures. This relationship might explain a part of the increase in fracture incidence we have seen the last decades.

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33 Sesjon: "Forskjellige temaer"
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RØYKEVANER BLANT GRAVIDE KVINNER I NORGE 1994/95

Kjell Haug, Kjerstin M.Eriksson, Kjell Å.Salvesen, Karen Andersen, Jakob O.Nakling, Britt-Ingjerd Nesheim, Gro Nylander, Svein Rasmussen.

En prospektiv, multisenter studie blant 4766 gravide kvinner i Tromsø, Trondheim, Bergen, Oslo og Lillehammer ble gjennomført fra september 1994 til mars 1995. De gravide ble spurt av jordmødre om sine røykevaner da de kom til ultralydundersøkelse i 18.svangerskapsuke.
I 1987 viste 2 undersøkelser at røykevanene blant gravide i Norge lå svært høyt (35% og 39%). En undersøkelse fra Sør-Trøndelag har senere vist at røykevanene blant gravide har gått betydelig ned i perioden 1987-1994.
Vår undersøkelse bekrefter tallene fra Trøndelag og viser samtidig at dette er en endring som har skjedd også i andre deler av Norge. Studien viste at 21% av de gravide rapporterte daglig røyking i 18. svangerskapsuke. 38% av de som var daglig-røykere før de ble gravide anga at de har stoppet å røyke i løpet av de første 18 ukene av svangerskapet.
Denne endringen i røykevaner blant gravide er bemerkelsesverdig siden det ikke har skjedd en tilsvarende reduksjon i røykevanene blant ikke-gravide kvinner i samme aldersgruppe.

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34 Sesjon: "Forskjellige temaer"
Møterom fredag 31. mai kl. 14.00

INDIVIDUAL NICKEL EXPOSURE IN SØR-VARANGER MUNICIPALITY ELUCIDATED BY MEASUREMENTS OF NICKEL IN URINE

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Aim: To study individual exposure to nickel in the adult population of Sør-Varanger as a dose indicator for possible health effects of the nickel pollution from the neighbouring Russian nickel industry.

Materials: This study of nickel exposure is a part of a larger study undertaken to investigate possible health effects of the sulphur dioxide and nickel pollution in Sør-Varanger. We invited the adult population in the municipality aged 18-69 years to a screening in 1994. Out of 6142 eligible persons 3636 (59,2%) participated. The screening included a questionnaire completed by the participants, lung function testing, fluorography, blood sampling for atopy screening and patch testing for nickel allergy screening. Finally, urine was sampled to measure nickel concentration. Measurements of nickel concentrations in body fluids give a much better insight into the extent of individual nickel exposure than do studies of nickel levels in ambient air. Nickel concentration was measured by electrothermal atomic absorption spectrometry in urine samples from 901 subjects living in different parts of the municipality. A random sample of 311 subjects from the population-based Tromsø Study in 1995 was used as a control group for urine nickel analysis.

Results: We found low levels of urine nickel in our material. As many as 419 (46,5%) subjects had nickel concentrations below the detection limit of 0.5 µg/l. The data thus are highly skewed and best suited for frequency analysis grouping the subjects according to their urine nickel concentration. 53 (5.9%) persons had values above 2.5 µg/l, which is our chosen cut off point. No significant difference was found between men and women, while lower age was associated with higher nickel concentrations. Living in the area with the highest population density as well as living in an area with heavy traffic were associated with higher nickel concentrations, even when controlling for the other factor in stratified analysis. Low concentrations were found in the areas close to the nickel plants. No significant difference was found between nickel concentrations in Tromsø and Sør-Varanger.

Conclusions: 1. The population in Sør-Varanger has low levels of nickel in urine, indicating low exposure. 2. The individual nickel exposure attributed to air pollution from Russia is of minor importance on the Norwegian side of the border. 3. Nickel exposure in our material seems linked to level of urbanisation. 4. An association was found between traffic and nickel urine levels, which has not been observed before.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

35 Sesjon: "Forskjellige temaer"
Møterom fredag 31. mai kl. 14.15

Genetic Susceptibility and the Liability for Asthma in Norwegian Twins

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Aims: To estimate genetic and environmental components for variation in liability for asthma and analyze the risk of asthma contingent upon the disease history of the co-twin.

Materials and Methods: The data are from a population-based sample of Norwegian identical (MZ) and fraternal (DZ) twins comprised of 2570 intact pairs and 724 single responders. The twins were aged 18-25 in 1992 when they responded to a questionnaire containing, among others, items about history of asthma, age of onset, and age at last episode.

The risk for asthma to co-twins of affected twins was estimated using Cox proportional hazard models with corrections for dependency in the twin data. Structural equation modeling using MX was conducted to estimate the genetic and environmental sources of variation in liability for asthma.

Results: 5.6% of the sample endorsed a positive history of asthma. Sex differences in the frequency of asthma were not significant, however the average age of onset was significantly younger among the males than the females. The co-twin's disease status significantly influenced the risk for developing asthma, especially among the MZ pairs. The relative risk of developing asthma among twins whose co-twin had a positive history of asthma compared to those whose co-twin had no history of asthma was 17.85 (95% CI=10.29--30.99) for MZ twins, and 2.33 (95 % CI=1.24--4.38) for DZ twins. Tetrachoric correlations by zygosity and sex of the pair revealed that genetic effects are important for variation in liability to asthma, and that effects due to dominance are sizable. Modeling procedures indicated that genetic influences accounted for 75 percent of the variation in liability for asthma and the remainder of the variation is attributable to non-shared environmental effects. There was no evidence of sex differences in the genetic and environmental variance structure for liability to asthma.

Conclusions: Genetic effects account for sizable variation in the liability to develop asthma, and account for most of the familial component for asthma. A positive history of asthma in one's co-twin is associated with an increased risk for developing asthma. Although twins share environmental and genetic factors, the dramatic zygosity difference in risk to twin's of affected co-twins suggests that genetic effects account for a sizable component of the risk.

DEN SJETTE NORSKE EPIDEMIOLOGIKONFERANSEN - SVALBARD 30.-31. MAI 1996

36 Sesjon: "Forskjellige temaer"
Møterom fredag 31. mai kl. 14.30

BLODTRYKK SOM RISIKOFAKTOR HOS ELDRE.

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Formål

Teste om blodtrykk er en risikofaktor for totaldød hos eldre og gamle. Er det samme assosiasjon som hos yngre og middelaldrende og betyr det noe hvilket blodtrykk de hadde 12 år tidligere?

Materiale og metoder

I 1950/51 og i 1963 ble den generelle befolkning i Bergen blodtrykksmålt i forbindelse med den påbudte skjermbildefotograferingen. Blodtrykket målt hos 2775 menn og 4420 kvinner i alder 70-89 år i 1963 har blitt relatert til 2, 10 og 20 års dødelighet. For 1453 menn og 2502 kvinner har jeg i tillegg sett på betydningen av blodtrykksendringer fra 1950/51.

Resultater

Den relative risiko assosiert med en gitt blodtrykksdifferanse var lavere enn hos yngre individer. Men den absolutte risikoøkning med økende blodtrykk var større i aldersgruppen 70-79 år enn hos middelaldrende. Det var ingen økning i dødelighet med økende blodtrykk for aldersgruppen over 80 år ved måling. Kvinner i alder 70-79 år med systolisk blodtrykk mindre enn 125 mm hadde signifikant høyere dødelighet enn referansegruppen (systolisk blodtrykk 135-154 mm) i de første to årene etter måling, RR= 2.74 ; 95% konfidensintervall (1.40- 5.38). Ekskludert de to første årene forvant dette. Det var ingen forøket risiko for lave verdier av diastolisk blodtrykk bortsett fra hos kvinner i alder 80-89 år i de to første årene etter måling, RR = 1.56; 95% konfidensintervall (1.00- 2.42) i forhold til referansegruppen (diastolisk blodtrykk 80-89 mm). Justert for den siste blodtrykksmålingen var en oppgang i systolisk blodtrykk fra 1950/51 til 1963 assosiert med 20-30 prosent lavere dødelighet sammenlignet med en nedgang, for menn og kvinner som var 70-79 år og for kvinner som var 80-89 år i 1963. For diastolisk blodtrykk finner vi tilsvarende mønster bare hos kvinner i alder 70-79 år, RR=0.80; 95 % konfidensintervall (0.69-0.94).

Konklusjon

Høyt blodtrykk er en risikofaktor for totaldød hos menn og kvinner i alder 70-79 år. Blant 80-89 åringer var det ingen sammenheng mellom høyt blodtrykk og totaldød. Det var ingen signifikant forhøyet risiko for lave verdier av systolisk eller diastolisk blodtrykk ekskludert de to første årene av oppfølgingstiden. Systolisk blodtrykk målt 12 år tidligere var av betydning gitt blodtrykket i 1963 for menn og kvinner i alder 70-79 år og for de eldste kvinnene ved annen screening.

37 Presenteres ikke som foredrag

PROTEIN ENERGY MALNUTRITION, VITAMIN A DEFICIENCY AND NIGHT BLINDNESS IN BANGLADESH

Akhtar Hussain, Bernt Lindtjørn and Gunnar kvåle

Centre for International Health, University of Bergen

Introduction: Associations between Protein Energy Malnutrition (PEM) and vitamin A deficiency and xerophthalmia have been described. However, the investigation from Indonesia suggest that the relationship between PEM and xerophthalmia is complex and geographical variation is a possible factor influencing the outcomes.

Design: In a cross-sectional survey in rural Bangladesh, information were collected on food habits, intake of vitamin A capsules for 105 night blind cases (0-14 years) as reported by the parents and their age/sex/neighbourhood matched controls. Body weight, height and mid upper arm circumference (MUAC) was measured for 105 cases and 105 controls and venous blood was collected for the determination of serum vitamin A from 87 cases and 97 controls.

Results: Our results showed that night blindness was associated with PEM when using MUAC as a measure for nutritional status. The odds ratio for confirmed diagnosis of night blindness among children with a MUAC <80% of the reference versus normal children was 5.4 (CI 1.9-15.5). Low MUAC was associated with low intake of β-carotene and vitamin A containing foods as well as with low serum vitamin A in the total series of cases and controls.

Conclusion: Our findings may indicate that night blindness is only one aspect of the general protein energy malnutrition conditions in this population. We therefore suggest that measures to prevent vitamin A related morbidity and mortality should also include improvement of the general diet with increased consumption of dietary vitamin A.

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