Nutrition Behaviour of Families with Low-Income

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Abstract : Poverty is an important issue, not only in developing countries but also in industrialised societies. In 1999 15% of the European population have been in risk of poverty and the number of people living in poverty in Germany continues to increase. As poverty concerns all aspects of life, it influences health, well-being and the nutrition of the people living on low-income. Although this problem is obvious, only few surveys have been conducted to analyse it and therefore there is only limited information on the nutritional situation and nutrition behaviour of the poor.

A qualitative study, which looked closely at the nutrition behaviour of 15 low-income families, was carried out in Giessen, Germany. The results showed that the nutritional situation of poor families differs from that families with a higher income have, the reasons being that their scope for action is restricted by a shortage of money and that there is a lack of skills and knowledge to provide family members with adequate nutrition. Strategies to improve the nutrition situation of poor families should aim at encouraging them to acquire relevant information and appropriate skills to adopt a healthier diet within their financial, social and cultural constraints. Also there have to be socio-political arrangements, which improve existing financial and social provisions as well as preventive educational measures.

Key Words : low income, poverty, nutrition behaviour

I. Introduction

In recent years even in advanced European welfare states poverty has again become an issue of widespread attention. Although the standard of living has risen continuously for most, changes in labour force participation, over-indebtedness and an increasing number of recipients of social benefits have widened the gap between rich and poor.

The rising awareness of poverty in welfare states during the last years appears on national level, where the German Federal Government wants to fight poverty, as it is shown in the poverty report published in 2001 (BUNDESMINISTERIUM FUER ARBEIT UND SOZIALES 2001) and on European level, with poverty as a strategic goal for the European Union in order to strengthen employment, economic reform and social cohesion

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as part of a knowledge-based economy. The European Council states that the number of people living below the poverty line and in social exclusion in the European Union is unacceptable (EUROPEAN PARLIAMENT 2000).

Poverty through unemployment, homelessness and child-poverty can also be seen in the city of Giessen, where the described case study has been carried out (LEHMKUEHLER 2002).

II. Poverty concepts and dimension of poverty

Poverty research in Western European countries is mostly based on relative monetary concepts. Relative poverty is defined in relation to a generally accepted standard of living in a specific society at a specific point of time (DOBSON 1997). In most cases all households are covered, whose income is below a threshold, usually 50% or 60% of the national average household income.

German residents, who are no longer able to provide for themselves, can claim welfare benefits (the so-called "Sozialhilfe"). This level of governmental social support is supposed to guarantee a basic living standard and it is understood as a last public resort for people in serious economic or social difficulties. Social assistance can be considered as a political poverty measurement.

But regarding the multidimensional character of poverty, a merely monetary definition does not meet the complexity of this subject. Therefore a broader, lifestyle-orientated poverty definition, based on Peter Townsend's concept of relative deprivation (TOWNSEND 1979), covering a multitude of dimensions like employment status, education, health or the family situation is more adequate to meet individual situations, but official statistic data does not provide sufficient information for this approach so far.

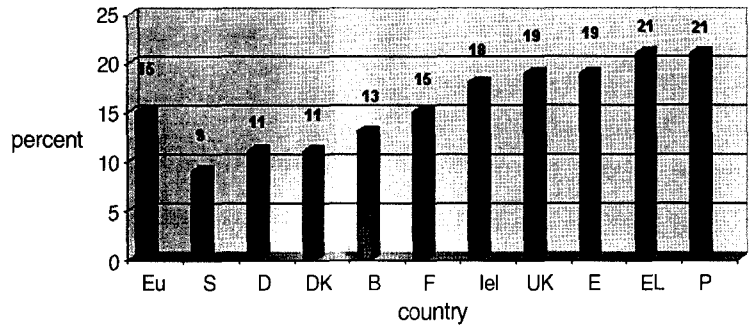
In 1999 15% of the population of the EU have been in risk of poverty, according to a 60% median-average income threshold, with a range from 9% in Sweden, 11% in Germany and Denmark to 19% in the United Kingdom and even 21% in Spain and Portugal, which is shown in <Figure 1> (EUROPEAN COMMISSION 2003: 148FF).

Following relative concepts, the number of people living in poverty in Germany continues to increase, in 2000 9,1 % of the German population (which is about 82 Million people) lived in relative poverty (STATISTISCHES BUNDESAMT 2002: 589).

The population groups most at risk of being poor are unemployed persons, households with a large number of children and single-parent households. Single-parent households represent a particular vulnerable group; since 30% are affected by poverty (according to the 50% income threshold) and 67% are living in precarious conditions (according to the 75% income threshold) (STATISTISCHES BUNDESAMT 2002: 590).

So living in the aforementioned households an increasingly large number of children is growing up in poverty for shorter or longer periods of time.

According to the Poverty Report of the Federal German Government over one million children in Germany receive social support, that rate (6.8 %) is almost twice as high as the rate of the population average, which is 3,5% (BUNDESMINISTERIUM



<Fig. 1> At risk of poverty rate in the European Union, 1999

Source: European Commission 2003: The social situation in the European Union 2003

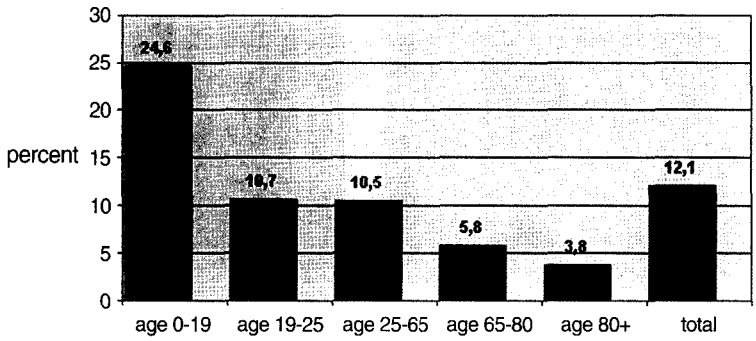
FUR ARBEIT UND SOZIALES 2001: 78F).

Also on European level children are recognised as a group more likely to be poor. In 1998, the proportion of children (under the age of 16) living in a household with low income in the European Union was 19% and so more than 1/4 higher than for the population as a whole (15%) (EUROPEAN COMMISSION 2003:151).

In Giessen, the dependence of children on social support constituted to more than 20% of all receivers of social assistance (see Fig. 2; MEIER 2002: 87).

III. Nutritional situation of people living in poverty in industrialised countries

Although there is rising awareness of the poverty problem, there is only limited information on the nutritional situation of people living in low-income families. Poverty apparently influences nutrition and health of the people concerned, but the current poverty research considers the relationship between poverty and health respectively nutrition only to a marginal extent.



<Fig. 2> Receiver of social assistance in percent of the total population in Giessen

Source: Own compilation according to Meier 2002: 61

Some studies have been carried out in Europe (e.g. DOWLER, CALVERT 1997; KAMENSKY ET AL 1997; KLEIN-PALAT 2003;) examining survey samples in different living conditions and using different methods, which makes them hard to compare and does not always allow general statements (LEONHAEUSER/LEHMKUEHLER 2003).

Representative data describing the nutritional situation of the poor has not been collected in Germany yet. Some data sets of representative surveys can be evaluated comparing different levels of income, but the target group of the poor is often underrepresented in these investigations (KARG ET AL 1997).

Low income is associated with poor nutrition at all stages of life, starting in early childhood, from lower rates of breast-feeding to higher intakes of saturated fatty acids and lower intakes of antioxidant nutrients (NELSON 2000).

The German Nutrition Report 2000 demonstrates that the lower the education, the lower the available income and the more family members a family has, the unfavourable the nutrition is (DGE 2000A).

IV. Qualitative Case Study

1. Objectives

In order to examine the nutrition behaviour of selected lower income families and to show how the families cope with their everyday life and especially with their food supply, a qualitative case study, which looked closely at the shopping-, cooking- and caring- habits of the target group, was carried out in Giessen, Germany (LEHMKUEHLER, LEONHAEUSER 1998A).

The present local study comprises the monetary aspect as well as situational-, personal-, familial-, social- and cultural parameters of the households' nutrition situation. The identification of the individual living conditions was of particular interest, with the intention of getting wider knowledge of the lifestyle of the target group for developing recommendations and for the counselling practice.

Estimations of the participants were recorded with consideration of physiological and healthy aspects of nutrition as well as with the participants' nutrition knowledge and skills. The study was carried out on behalf of the municipality of Giessen from January 1997 to June 1998.

2. Hypotheses and Methods

Various methods can be used to assess human nutrition behaviour, and they each have their advantages as well as their disadvantages. Therefore and because of the deficient knowledge of behaviour patterns of the target group, a mix of various methods was applied to investigate the following key questions.

1.) The nutrition of low-income families is not healthy and does not meet a balanced diet.

2.) Low-income households have a shopping behaviour, which differs from the average population.

3.) The nutrition behaviour of families, who receive social benefits/are unemployed for a long time (the so-called "old poor"), is different from

the nutrition behaviour of families who fell poor recently (the so-called "new poor").

For presenting the nutrition behaviour of low-income households and for answering the key questions, a broad approach was developed using both qualitative and quantitative methods, following a lifestyle-orientated concept. (Fig. 3)

These methods were combined in order to obtain information about what the respondents actually eat and drink, according to which criteria they choose their food, how they organise their shopping and which importance they attach to nutrition and health. Also the participants' knowledge about healthy eating, their food preparation skills and their household equipment was examined. The nutritional pattern was acquired by means of a structured interview; the topics of the interview were the financial situation, housing, educational level, food habits, housemanaging skills and others (see Fig. 4).

A semi-standardised questionnaire targeting at the shopping behaviour was applied, also a semi-standardised personality-questionnaire, which offered data about the socio-demographic circumstances the people live in and anthropometric data as well (height and weight).

A four-week shopping-record with a detailed list of all purchased foods, including information about quantities, prices and labels, is a characteristic of the survey and provided an insight into

Methods	Objectives
Expert interviews	Getting information about the deprived area and the survey sample in zpreparation of the research frame
Semi-standardised questionnaire (personality questionnaire)	Investigation of sociodemographic, physical and health data (e.g. weight, subjective wellbeing)
Personal interviews (by means of an interview guideline)	Data collection, analysis and answer of key questions
Semi-standardised questionnaire, targeting at the shopping behaviour	Data collection (shopping behaviour, quantities and prices)
4-week shopping record	Shopping profile (consumption pattern); revision of the data collected by the shopping-behaviour questionnaire; answering of key questions
Randomised behaviour observation	Investigation and affirmation of the shopping behaviour, analysis of shopping places and infrastructural facilities
Accompanying measures for the participants following the survey	Participatory observation during meals to investigate meal acceptance, hygienic situation, handling of eating and drinking, observation of the skills, meal preparation and which products are bought and prepared; actual consumption

<Figure 3> Scheme of the applied methods

Source: LEHMKUEHLER S (2002): Die Giessener Ernaehrungsstudie ueber das Ernaehrungsverhalten von Armutshaushalten (GESA): qualitative Fallstudien.

· Living Conditions/ Circumstances
· Household Situation
· Housing
· Education
· Employment Status
· Income Situation
· General Condition
· Health Status
· Nutrition awareness
· Skills of the family to provide its members with food and drinks
· Information Behaviour regarding nutrition (personal/ nonpersonal)
· Cooking-, meal preparing-, storing skills
· Future planning regarding nutrition and health
· Impact of local welfare institutions

<Figure 4> Interview guideline

Source: LEHMKUEHLER S (2002): Die Giessener Ernaehrungsstudie ueber das Ernaehrungsverhalten von Armutshaushalten (GESA): qualitative Fallstudien.

consumption patterns of the households. Due to difficulties in reading and writing or because of time reasons only 6 households took part in this record.

Participatory observation was a means to describe eating and drinking as well as the participants' skills regarding the household.

Expert interviews with the head of the local social security office, the head of the youth welfare office and social workers provided information about the area and the people living there, their problems of everyday life and a first estimation about their nutrition situation. This was a supplement to the results of the qualitative case study with just a small survey sample.

Accompanying measures were organised so as not to loose contact to the families after the survey; these should motivate and support the participants in the supply of their families and aim towards changing nutrition behaviour and cooking skills.

3. Subjects

15 families, all from a low socio-economic group, took part in the study. The participants of this study were living in one of the most deprived areas in the City of Giessen, where a high rate of unemployment and a low-income structure are prevalent. More than half of the people living in this district are claiming income support; over 70 % are unemployed. Those, who are working, usually have a job as unskilled or seasonal worker because of their low educational level (Lehmkuehler 2002: 98).

Therefore the co-operation with the participants required a sensitive and empathetic proceeding in order to establish a relationship, which could provide an insight into the private domain and to get reliable data.

The families were selected with the help of local social welfare institutions. Through repeated meetings and closer acquaintance in the run-up phase the 15 low-income households could be gained for participating in the qualitative survey. Among these, 10 families were relying on social assistance; the other 5 had a disposable income, which was just marginal above the level of social assistance. Furthermore different household-types were included, e.g. households with a large number of children, single-parent households or senior citizen households. 12 households belonged to the old poor, 3 have been new poor households.

4. Results and Discussion

The data was analysed in the context of the families' social environment to get a holistic view of their living conditions, habits and attitudes.

The results show that the nutrition behaviour of low-income families differed from that families with a higher income have, as discussed below.

All households showed difficulties in their household management. In principal the researched households were limited in their scope due to an insufficient financial status. On the other hand there was a deficiency in household skills, which inhibits the competent provision of the families with food.

1) Financial situation

Cost was the most important issue for most of the families. Given that the studied low-income households had a restricted budget for food, they did not enjoy the same purchasing power as others. The lack of money was identified as a problem in terms of limiting the kind of foods they could afford to buy, which was particularly a difficulty for the new poor. Aspects of health, nutritional value and delicious eating were considered less important and issues like seasonality, food-appearance and the minimum durability of food only seldom got attention.

Introducing changes in food habits was seen as a financial risk as food is the most flexible budgetary item for the families and if a household had to save money, the money was mostly saved by food, so new or unknown products were not usually bought. DOBSON concludes that changing to a healthy low-cost diet, which requires more than a minimal change in the foods eaten, is simply not an option, as doing so would require "trial and error" and low-income families have no margin for error (DOBSON 1997: 44).

2) Nutritional situation

The financial situation resulted in a tight spectrum of purchased foods; basically staple foods like bread, potatoes and pasta were obtained as they are cheap and filling. DOWLER described how monotonous and dull lone parents - living on Income Support in the United Kingdom - find their diets as a result of the tight budget and how hard it was to construct an interesting meal (DOWLER, CALVERT 1997: 310).

The consumption of meat and sausages was of high importance for the six families taking part in the 4-week shopping record. In contrary milk, dairy products, fruits and vegetables were consumed, but were of lower value, which is confirmed by international studies (LAITINEN ET AL 1995; KLOCKE 1997; REICKS ET AL 1994).

Family members of the studied low-income households ate (analysing their own statements, as data of the actual consumption have not been examined) an unbalanced diet rich in fat.

They did not eat according to nutritional recommendations of the German Nutrition Society, published e.g. in the "10 rules of healthy eating" (DGE 2000B); as they did not eat a variety of food, they did not eat five servings of fruit and vegetables per day or they had a high intake of fat etc. (LEHMKUEHLER 2002: 292FF). So the hypothesis that the nutrition of the poor is not healthy and does not meet a balanced diet can be confirmed.

The analyses of international surveys of low-income households, most of them conducted in the United States, approve these findings and report a higher intake of fat and a lower intake of some micronutrients (especially calcium) among children and adults of poor families (LAITINEN ET AL 1995; RUXTON, KIRK 1996; JOHNSON-DOWN ET AL 1997, ROOS ET AL 1996).

Children consume less fruit and vegetables, but more cheap meat and convenience products in families whose income is low (LAITINEN ET AL 1995; KLOCKE 1997). RUXTON AND KIRK also observed that children of low-income households get too much energy out of fat (RUXTON, KIRK 1996).

The clear impact of social class and income on the nutrition behaviour can be seen in the results of the "HBSC"-study (Health behaviour in school-aged children) as well, which has been co-ordinated by the World Health Organisation and in which 35 countries are engaged. The lower the social class the lower the quality of nutrition and the less favourable the behaviour on the majority of the examined nutrition variables is (KLOCKE 1997).

The unemployed family members of the respondents in Giessen, who were not involved in housework, felt useless in most of the cases; they did not have enough exercise and 5 out of 15 women respectively 8 out of 10 men were overweight. In this case study the children of the low-income families had been of normal weight.

International studies show that overweight and obesity are one of the prevailing factors occuring in low-income families in industrialised countries.

Evidence suggests that especially children from low-income households are more likely to grow into severly overweight adults (KLEIN-PLATAT ET AL 2003; KINRA ET AL 2000).

Obesity is the major nutritional risk factor found in welfare states, which puts the poor in a high-risk group for diseases like diabetes or coronary heart disease.

KINRA ET AL suggest that the decline in physical activity and the consumption of calorie dense food might be the cause for poor people being more overweight than non-poor. This study provides evidence for an association between deprivation and childhood obesity in English children aged 5-14 (KINRA ET AL 2000).

All participants of the present study regarded their personal well-being as satisfying, even though some of them had been suffering from diseases (LEHMKUEHLER 2002). The members of the "old poor" households did not reflect about the appearance of diseases, they just accepted the situation as it occured.

The risk analysis of their health situation seems to be secondary and considerations about prevention are not made. This is not the failure of the people; the reasons are their living circumstances, their position in society, their self-perception and their financial situation. Because of this they often did not have the possibility to behave in a preventive way, for example special dietary products were too expensive for them and therefore not purchased.

The qualitative findings showed that the nutrition behaviour of the investigated low-income families was not balanced according to the nutrition recommendations and needs and it cannot be characterised as health promotional. For the adults of this study overweight was found as a

major health problem, confirming international data, but children of the studied households did not suffer from being overweight or obese, which does not confirm the international trend.

Mortality and morbidity differences according to socio-eonomic groups have long been recognized in Europe and nutrition seems to play an important role (SMITH, BRUNNER 1997). And if the differences in diet and nutrition behaviour between different income groups remain or intensify, the disparity in mortality rates (from nutrition related diseases) is going to enlarge.

3) Shopping behaviour

The data of the case study in Giessen reports that two-thirds of the questioned households planned their shopping with a shopping list and looked for special offers, especially families with a large number of children.

Physical access to healthy food was a problem for the participants of the study as bulk buying was difficult without having a car. The purchasing of food and other goods for low-income families was time-consuming, cost-intensive and complex as they depend on public transportation systems.

In 13 of the 15 reviewed households the money did not last for 30 days and the families had to pull themselves through the remaining time. Money and food had to be stretched until the end of the month. The families made ends meet by consuming some stored foods, borrowing money and relying on gifts and invitations from other family members. This help was an important informal network and an exceptional facility in the organisation of everyday life in low-income households.

Looking at the aforementioned findings you can say that the shopping behaviour of the respondents differs from that of the average population, so this hypothesis has been confirmed.

You have to ask if the levels of German state benefits are sufficient to enable claimants to eat healthily. KAMENSKY conducted a qualitative study in Germany finding that the welfare benefits were not sufficient to cover basic minimum needs for the full length of a month, it was sufficient for 20 days only (KAMENSKY ET AL 1997; ROTH 1992). This problem has also been discussed for the United Kingdom, where DOWLER AND CALVERT came to the conclusion that this issue is controversial and still unresolved (DOWLER, CALVERT 1997: 307).

Low-income families want to feed the family members healthy. Especially the nutrition of the children is of high importance to them. DOWLER ET AL confirm that children get the healthier food or mothers go even hungry so that their children have enough to eat (DOWLER ET AL 1997: 19).

4) Situation of the new poor

What it means to provide oneself and the family members with eating and drinking by only a small amount of money had to be learnt by households of the new poor (n=6) first.

The speciality of the nutrition behaviour of the new poor was that they had to make compromises because of their financial situation, but they tried to maintain the eating style they have practised before as good as possible. Their competence and their basic nutrition knowledge were more distinct than that of the old poor and measured by society' s eating style, it was harder for them to abandon special products.

The necessary changes in the nutrition behaviour included the consumption of cheap articles instead of branded products and the abandonment of expensive wishes.

Families of the new poor still tried to prepare meals with fresh products unlike families of the old poor who used a lot of packaged and tinned foods. Frozen food therefore was applied by both household types.

The hypothesis that the nutritional behaviour of families of the old poor would differ from that of families of the new poor has been confirmed. Especially old-poverty families had a physiologically unbalanced, unhealthy eating behaviour. Families of the new poor behaved in a more health promotional way.

It has to be borne in mind when interpreting these data that the conducted qualitative study is based on interviews with the family members and so on their own statements, not on analysed consumption protocols.

V. Conclusions

The results presented in this paper show that people living in low-income households are nutritionally disadvantaged. They consume an unhealthy diet as a response to their social and economic circumstances and conditions.

International studies demonstrate that - when money runs out - people on low income may eat less food overall, cut down on the frequency of consumption of certain foods, skip meals or eat a poorer quality of food (DOWLER 1997).

The data illustrate that people belonging to the "old poor" in comparison to people belonging to the "new poor" differ in their nutrition and health behaviour, their skills and their shopping practices, but nutrition insecurity appears in all studied households. (LEHMKUEHLER 2002)

It is therefore important when addressing nutritional needs of low-income families not to lose sight of their personal situation, particularly in terms of what is possible to achieve through nutrition education and nutrition information.

Undernutrition can be the consequence of an inadequate spending on food because of limited money to spend and poor access to healthy and affordable food supply. The main barriers preventing families living on low income from adopting healthy eating advice is not ignorance, but the sum effect of the following factors and their interrelationship: socio-cultural norms, lack of resources, financial instability, limited access to and availability of affordable healthy food and a lack of choice (KENNEDY, LING 1995). As food insecurity does not only result from material consequences, but also from socialisation and education, all these terms have to be taken into account regarding the nutritional situation of people living in low-income.

Strategies should aim at encouraging poor families to acquire relevant information and develop appropriate skills to adopt a healthier diet within their financial, social and cultural constraints, so that to make the best use of their limited resources; practical advice is important, for example recipes, which are easy to realise.

Existing local social welfare institutions in deprived areas, like family counselling, dept counselling, churchly facilities and even

kindergartens and schools, could be used to sensitise poor people dealing with the subject nutrition. The advantage of local institutions is that they are accepted and adopted by the population in concerns of everyday life (DGH 2003: 70).

The co-operation with the low-income families in Giessen has also shown that conventional instruments and counselling techniques are not really applicable and effective. New concepts, meeting the demands of the target group, have to be developed, which are focussed on socio-economic and psycho-social circumstances of the people concerned. (LEHMKUEHLER 2002)

A first step is done by the German Society for Home Economics (DGH). On behalf of the German Federal Government the German Society for Home Economics co-ordinates organisations and builds networks with the objective of preventing poverty by procuring household-skills for difficult living conditions. A first set of programmes has been successfully implemented (DGH 2003, 37, 77,79).

But the prevention of nutrition insecurity cannot be done only by medium of teaching cooking- and shopping skills and intensifying nutritional knowledge. There have to be socio-political arrangements, which empower the families to accept and to claim counselling activities.

Continuing discussions with experts (e.g. social workers, politicians and academics) and ongoing work with concerned families should help to produce improvements in the situation.

A diet according to the nutritional recommendations of the German Nutrition Society (DGE) can only hardly be financed on the money you get on social assistance (KAMENSKY 1997).

So policy options to reduce poverty have to bear in mind the alleviation of food poverty, including for example school meals for the children or increasing income support rates. Policy options to improve the dietary health should include increasing social security. Politicians have to ensure that all individuals in the population have access to healthy and affordable food supply, for example families without access to a car cannot be put at a disadvantage and must have access to cheap, regular and reliable public transport.

Furthermore it is a serious problem and a challenge for nutritional counselling and education also as a burden for the future insofar as the younger generation is involved to a very high level, as children are the group most affected of being poor.

A balanced and regular diet is very important for health and growth in childhood and adolescence, and once nutrition habits have been acquired, they are in most cases retained across the further life course (KLOCKE 1997: 225). Because of this the preventive character of programmes and interventions for the young generation who are taking their place in society has to be considered.

The results of international studies show the necessity to develop interventions, which aim at reducing the prevalence of obesity of people living in low-income households.

It is necessary to offer activities for health promotion as soon as possible to avoid consequential costs; adequate options for implementation are schools and kindergartens.

Nutrition education should again become part of the German school curricula in order to improve the acquisition of healthy eating habits and encouraging greater autonomy and responsibility among

children and young people. (HESEKER 2002)

The interviewed households showed their interest in nutrition arrangements, which improve their living situation long-term. Their interest does not lie in nutrition only, but in healthy nutrition, which is a promising sign for the application of poverty-preventing strategies in terms of helping them to help themselves.

Due to the obtained insights basically research questions occur, which have to be clarified in further scientific and politic debates.

Representative studies for Germany are preferable to answer the questions of nutrient values and fulfilment of the demands in the diet of a bigger survey sample; not until then significant statements can be made regarding the health and nutrition situation of people living on low-income.

In the end it has to be proofed on the basis of a bigger survey sample if the money people get as social assistance determines the choice of food to the disadvantage of a health promoting diet.

It is obvious that there is a need for comprehensive and representative research in Germany and Europe. In order to get a holistic view future research should not only use income as a measure of deprivation, but also look at aspects of lifestyle and life circumstances to identify those that are worse off. Therefore it is essential to carry out strengthened poverty research - multidimensional and interdisciplinary- and integrate not only economic but also social indicators, which show the consequences of poverty in people' s attitudes and behaviour. Future research should focus on cross-sectional and longitudinal studies to collect information in order to develop prevention programmes.

A continuously poverty report is also desirable, which contains aspects of health and nutrition, to follow up suggested arrangements and their impact.

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